

Medical Library

THE JOURNAL OF THE *Michigan State Medical Society*

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

"LEGAL OPINIONS"

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Adapted from Our Social Heritage

By GRAHAM WALLAS.

Volume XXX

APRIL, 1931

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THE NEUROLOGICAL SIDE OF HYPERTHYROIDISM*

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ANN ARBOR, MICHIGAN

It is only recently that we have learned to discriminate between various forms of hyperthyroidism, especially between the so-called toxic adenoma causing a thyrotoxicosis and the form in which the toxic effect is associated with over-activity of the gland but not necessarily with hyperplasia. It is quite certain that Graves (1835) and Basedow (1843) did not realize any difference in these two conditions and what is ordinarily called Graves' or Basedow's diseases might be either one. In both conditions nervous and mental symptoms and signs are prominent in the clinical picture, and in so far as they are directly due to the thyrotoxin they are the same in both. The dif-

*Presented at the 110th Annual Meeting of the Michigan State Medical Society, Benton Harbor, Michigan, Sept. 15, 16, 17, 1930.

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ferential diagnosis must depend on other signs. Many different theories are held regarding the etiology of the thyroid adenoma—heredity tendencies, diet, deficient iodin, infections, trauma and others. The histopathological study of the gland does not settle this question of etiology even though it

may differentiate the type of pathologic change.

In the type of thyrotoxicosis in which no adenoma is demonstrable the most important, if not the sole cause is emotion. Emotional disturbance may also be a complication of the toxic adenoma but is probably not the etiological factor in such cases. Twenty years ago when exophthalmic goiter was still regarded as primarily a nervous disease, Oppenheim wrote that the chief cause was worry or fear, also occasionally a single psychic shock. Other causes that he listed were: trauma, bodily overstrain, wasting diseases and difficult childbirths, all of which obviously might be connected with emotion.

The mental state of a hyperthyroid patient is practically never normal. There is an abnormal irritability, restlessness and excitement that can be noted immediately in the facial expression and actions. Reynolds has spoken of a "chorea of thought" in these cases. They retain their ambitions but their efforts exhaust them before they accomplish anything. The mental condition varies in degree in different patients and in the same patient from time to time. The severity of the mental symptoms does not correspond to that of the other symptoms. In fact, I have seen a patient who had practically no other symptoms except those above described and from which he recovered completely following an operative removal of the thyroid.

Sometimes these mental symptoms become more marked and we have a characteristic toxic type of psychosis with mental confusion, memory disturbance and confabulation, hallucinations and so on. There is nothing about these cases that would distinguish them from other toxic psychoses except the history and mode of onset. More rarely there may occur other types of psychoses such as melancholia, paranoid types and the like, but in such cases the psychoses are to be regarded as complications rather than symptoms of the thyroid disturbance. It is important to separate these complicating psychoses from those of the toxic type because they are frequently unimproved or even made worse by thyroid operations whereas the thyrotoxic type may be cured by the same treatment.

Of course, none of the above symptoms are strictly speaking emotional. They are changes in character, feeling, and modes of

thought and action. They are results of hyperthyroidism and in no sense causal.

For emotional causes we must look into the history of the case, but we cannot be content merely with the patient's statement that he is not worrying or fearful.

It is my personal opinion that we should not say that hyperthyroidism is a result of emotion but we must say it is a phenomenon of emotion. It follows, therefore, that the patient must in fact have the emotional conflict at the time he complains. It is not something in the past but in the present, in fact, although the patient may not be aware of it or of the connection between it and his symptoms.

This repression of the conflict and consequent unawareness of it is the main reason why the emotional factor in the etiology of cases is so frequently overlooked.

The greatest difficulty that we have in explaining the relation between emotion and the various glandular and other disturbances that are a part of emotion is due to the use of the word emotion as synonymous with feeling. Although such use is proper in a general sense, the dictionary also points out that the two words have different derivations and an accurate meaning of emotion is that which implies agitation or conflict, "a tumultuous disturbance." The best technical definition is that given by Janet: "When an organism perceives its inability to so adapt itself, there results a series of phenomena that taken collectively we speak of as an emotion." You will note that the glandular and other disturbances are not caused by emotion; they are, in fact, a part of it. The feeling accompanying it, usually of a disagreeable type, is also a part of the emotion. If we use the word in the above technical sense, which is the physiological, or, if you prefer, the neurological definition, we obtain a clearly defined relation between conflicting ideas, the so-called mental conflict, and various disturbances of function.

The physiologic side of this definition is based on the work of three distinguished physiologists: First, Pavlov, who demonstrated experimentally that secretions reflexly induced would be modified both in character and amount by training, the so-called "conditioned reflex"; second, Sherrington, who proved that the nervous system has an integrative action so that stimuli simultaneously applied that give rise to con-

flicting impulses will result in internal conflicts; and finally, Cannon, who showed that fear and rage in animals affected profoundly the internal secretions.

It is not my purpose at this time to go into the question of the many and important disturbances of function that accompany and, in fact, characterize emotional conflicts, but to confine my attention to the thyroid. However, it may be pointed out that it is because of the presence of these other manifestations that we are able to diagnose from the neurological examination the emotionally caused hyperthyroidism from the other type—the toxic adenoma.

The treatment of the toxic adenoma is logically surgical or some other method of lessening the gland function. The logic of removing a gland that is simply secreting excessively because of an emotional conflict is not so clear. It is true that with the removal of the gland in such cases there is a prompt recovery from the thyrotoxicosis, but such patients continue to complain of other signs of the emotional conflict. Except in desperately ill patients, it would seem to me better to search first for the cause of the trouble and try to remove it. An operation could be done later if it were necessary.

Other neurological manifestations are numerous in hyperthyroid states. One of the most common is a complaint of asthenia and general inefficiency. This is often referred to as a neurasthenoid condition, but there are many differences from a true neurasthenia. A neurasthenic feels at his worst in the morning and better toward evening. The hyperthyroid becomes progressively weaker as the day wears on. This is much like the complaint in myasthenia gravis and there are often other resemblances, inasmuch as a local weakness may occur after use; for instance, diplopia or drooping eyelids after using the eyes or a profound weakness of the fingers after playing the piano a short time, a husky voice and difficulty in articulation after talking—all of these symptoms being relieved by rest. In the past two years I have seen two patients with hyperthyroidism, but with such marked myasthenic symptoms and signs that a diagnosis of myasthenia gravis was seriously considered. Attacks of periodic paralysis in hyperthyroidism have been described by Saenger and others but these and also the

occurrence of a localized progressive muscular atrophy must be regarded as complications rather than symptoms.

Attacks of abnormal sleepiness have been described as occurring in Graves' disease, but in my experience there has been more tendency to insomnia although this is not usually a serious symptom.

The characteristic tremor is the fine type, eight or ten per second, and does not usually interfere with the use of the hands. I have seen several patients who had the coarser intentional type of tremor and whose cases had been diagnosed as a thyrotoxemia, but further study always showed some other disease of the nervous system to account for the tremor.

The most common secretory anomaly is hyperidrosis, which is often most noticeable in the extremities, the hands and feet, but may also be general. Other secretory anomalies that have been described as thyrotoxic, such as polyuria, diarrhea, glycosuria, dry mouth and so on, are probably emotional. In the cases that I have studied they show all the characteristic signs of emotional reactions and they have occurred only in those cases where an emotion has also been the cause of the thyroid hypersecretion. I am inclined to believe that Loewi's sign, the dilation of the pupil on instilling adrenalin solution, is not a sign of excessive secretion of the thyroid, but occurs only in those cases which are emotionally caused and have, therefore, also an excessive amount of adrenal secretion in the blood. Although I have made this test on a large series of cases and found it present in some and not in others, I have not had the chance to study these same cases psychoanalytically so as to be sure which were emotional.

The tendon reflexes and the objective sensory tests show nothing abnormal in thyrotoxicosis.

DISCUSSION

DR. WILLIAM VIS (Grand Rapids, Mich.): I was surprised to hear the doctor say that in hyperthyroidism the reflexes were not exaggerated, unless I misunderstood him. I had been of the impression that in acute thyroid toxicosis the reflexes might be markedly changed. If I am entirely wrong, I would like to be told so, and if there is such a change in the reflexes and it is not due to thyroid toxicosis, but due to something else, I would be glad to know of that.

DR. C. D. CAMP (closing the discussion): In regard to Dr. Vis' question concerning the reflexes, I meant what I said, in this way: The increase of

the reflexes may be measured either by the amount of movement which results from tapping the tendon or by the duration of the latent period. The amount of movement which follows the tapping of a tendon often is largely the result of the patient's mental state. It may be brought out, for instance, by reinforcement. As you know, in that sense of the word, a thyroid toxic patient may show large re-

flexes. They are over-excitable, and tapping the tendon gives a large response. On the other hand, that does not indicate any pathology in the central nervous system. If I were to speak of an exaggerated reflex, I would mean one that would show a pathologic change in the nervous system, which does not occur in thyroid toxicosis. It may be a question of what you mean by increased reflex.

CLINICAL USE OF VIOSTEROL

H. G. PONCHER, M.D.[†]
CHICAGO, ILLINOIS

It will not be my purpose to go into the numerous reports, both clinical and experimental, that have been published concerning the biologic effects of irradiated ergosterol. You are all familiar with the fundamental work of Windaus and Hess, Rosenheim and Webster, and Steenbock and Nelson and the practical application of their work. Following this experimental demonstration of the antirachitic activity of irradiated ergosterol numerous investigators have worked with this substance in both animals and human beings.

There appears to be a general agreement that we have in irradiated ergosterol an agent of exceptional potency in the prevention and the cure of rickets. The earlier controversy arose as to the pathologic effects produced in the employment of this substance as a therapeutic agent in rickets. Various symptoms listed under the head of hypervitaminosis were reported from many sources. Such symptoms as hypercalcemia, anorexia, diarrhea and loss of weight were listed. This state of affairs obviously caused the clinician to focus his attention upon the toxicologic aspect rather than the biologic properties of irradiated ergosterol. The interest was then centered about the safety of this new therapeutic agent. In checking over the earlier animal experimentation it was found that much of the controversy had arisen from the use of enormous doses of irradiated ergosterol standardized by gravimetric methods instead of biologic standards. Without entering into a detailed discussion at this point of the paper, it may be stated that the pathologic results obtained in the earlier experiments were about 10,000 times the prophylactic dose. It was obvious that such enormous overdosage could not be applied to the results one might obtain in the therapeutic application of the preparation.

As a result the question then arose as to what constituted the proper dose in the prophylaxis and treatment of rickets. Various

investigators, notably Alfred Hess in this country, have published their observations concerning this phase of the question. I should like to take up for consideration the results of our investigation covering the first year of the work.

Beginning in November, 1928, all the infants born in the maternity ward of the Research and Educational Hospital of the University of Illinois, were selected for this investigation for a period of one year. They were divided into three experimental groups at the age of one month. One-third was given a biologically standardized preparation of irradiated ergosterol (viosterol); one-third, cod liver oil; and one-third, no antirachitic therapy (control). The duration of the observation in this report embraced at least five months of the infant's life and 73 per cent of the entire group were followed for a period of over eight months.

Our results lead us to the following conclusions:

1. In the determination of the prophylactic dose for any given infant, several factors must be given due consideration. If, as in the case of prematures and twins, the factor of insufficient mineral deposition in the bones during intrauterine life is a factor, the prophylactic dose should be increased. Rapidly growing infants whose calcium needs are great must be given special consideration. Infants with repeated infections

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and diarrheas also require more than the prophylactic dose for normal infants. From a consideration of our clinical, roentgenographic and blood chemistry findings we concluded that, for the average normal infant from birth to one year, ten drops of viosterol in oil daily is the minimum dose for prophylaxis, if the administration is started within the first month of life.

2. The determination of the optimum dose for therapeutic purposes was difficult to determine from the small group of active rickets that we had under our observation. The severity of the rickets must be determined, and the dose given accordingly. Mild rickets will frequently heal on fifteen to twenty drops a day, while some severe cases will require as much as thirty to forty drops a day. Given a specific and active form of biologic therapy, results depend to a great extent upon the judgment of the physician.

3. The last statement at once suggests the question as to what is the limit of safety in the therapeutic scale. We fed some of our infants from twenty-one to fifty-two times the prophylactic dose daily over a period of eight months without evidence of hypercalcemia, diarrhea or loss of weight. While such doses are not advised, and are seldom indicated, it does emphasize the limit of therapeutic safety. We have no logical reason to believe that doses in these amounts will result in pathologic changes in the tissues. As was emphasized in the beginning of this discussion, the toxic changes reported by earlier investigators were obtained on enormous overdosages. These considerations belong in the realm of toxicology and are not concerned with doses employed for clinical purposes.

The ultimate success of irradiated ergosterol in the prophylaxis and therapy must await further carefully controlled clinical use. Nevertheless, introduction of this substance into clinical medicine has given us an excellent and potent source of Vitamin D, which, intelligently used, fulfills all our requirements for this form of biologic therapy, and is a noteworthy contribution to the field of medicine.

DISCUSSION

DR. JOHN P. PARSON (Ann Arbor): I can add nothing, but would like to ask two questions.

I think all of us have noticed rickets develop not

at all infrequently in patients who have been taking cod liver oil, and occasionally have noted the same when on ultra violet light and cod liver oil. I wonder if this might occur with viosterol. Does over-irradiation of viosterol lessen its potency?

My second question: Suppose we give large doses of viosterol and then radiate the baby with ultra violet light, is this good practice or bad practice?

DR. M. COOPERSTOCK (Ann Arbor): I am sure I cannot add very much, but I might say something of interest in regard to renal rickets. We recently had a case of renal rickets with an acute stage and found that ordinary rachitic therapy does no good in these cases. That is, the ordinary antirachitic therapy will do no good.

DR. COOPER: I can add nothing, but I would like to express my appreciation for the two very interesting papers. They certainly have enlightened me, especially as to the amount of viosterol given with no deleterious effects, as shown in the last paper. I was of the opinion that it was dangerous to give an overdose.

DR. HENRY G. PONCHER (closing): Dr. O'Donnell asked the question whether we were using straight cod liver oil or that to which extra Vitamin D was added, commonly known as fortified cod liver oil. We used the plain biologically standardized cod liver oil. Our object in using cod liver oil was to have three groups of infants for comparative study. Those receiving only Vitamin D (viosterol), those getting Vitamins A and D (cod liver oil) and those receiving no definite form of Vitamins A and D (controls). There is a common conception that when Vitamin D is in combination with Vitamin A as in cod liver oil it is more effective than when Vitamin D is given alone (viosterol). While we reported our results of this observation it was also emphasized that the observation only covered the first year of the infant's life. I do not believe we are in position at this time to make a definite statement regarding the comparison of cod liver oil and Viosterol. A careful comparative study should include at least a three year period, taking into consideration the milk as an incidental source of Vitamin A.

In answer to Dr. O'Donnell's question as to our observations on the effect on teething: We used the eruption of the first two teeth as an index of teething. From our observations we were unable to determine whether antirachitic therapy during the first year of life either hastens or retards the eruption of deciduous teeth. Our observations did not include a sufficient period of time to determine the quality of teeth produced by the different kinds of therapy.

Dr. Parsons raised the question as to the relationship of time of irradiation of ergosterol to its potency. This question has received much consideration from the people who are making viosterol. It has been definitely shown that the potency of the finished product increases up to certain strength depending on the time of irradiation and then decreases. This point emphasizes the value of the biologic method of standardization as opposed to gravimetric method.

The second question raised by Dr. Parsons is a most interesting one. The comparative effect of irradiated viosterol by mouth and irradiation of the skin has yet to be carefully studied. Some workers in China recently reported that skins taken from rats which were fed irradiated viosterol by mouth were not antirachitic when fed to other rats, whereas those skins taken from rats which were irradiated

had definite antirachitic value. The assumption was that when Vitamin D was taken by mouth in the form of viosterol it was not stored in the skin but irradiation did cause storage of Vitamin D in the skin.

Dr. May suggested that either the potency be increased or the price of viosterol be reduced, as it was an economic consideration when large doses were prescribed. In response to such demands from other sources, the Wisconsin Foundation has advocated that after October 1, 1930, the potency be in-

creased from 100 D to 250 D (Steenbock method of standardization). The dose will remain the same.

The viosterol used in our investigation was prepared by Mead Johnson & Company.

This product, until October 1, 1930, was 100 D as assayed by the McCollum-Shipley method but 250 D if assayed by Steenbock method. All products manufactured after October 1, 1930, will be standardized according to the Steenbock method to a strength of 250 D. The only change in the product we were using is in the designation and not in potency.

KIDNEY FUNCTION TESTS*

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In devising a new test of kidney function, or in critically evaluating old tests, one should have in mind certain criteria which these tests must fulfill. Such criteria must be based either upon what little kidney physiology is known, or upon such theoretical considerations as seem plausible.

Richards has shown that all of glomeruli in the kidney are ordinarily not active simultaneously. In fact, even the whole of one glomerulus may not be functioning at the same time. Since we have no way of knowing the number of glomeruli which are active, or if each one is working at its greatest capacity, it is quite obvious that, in order to make a comparison between normal and abnormal kidneys, both should be working at their fullset capacity. The first requirement, therefore, which any test of kidney function must satisfy is that the kidneys are under sufficient strain to insure maximum function.

Urine is a true solution, composed of water and solids, and normal kidneys apparently have no difficulty eliminating either of these substances. In studying diseased kidneys, however, it is necessary to determine if there is a disturbance in the elimination of water, of total solids, of any particular solid, or of any combination of these.

Diseased kidneys have difficulty in eliminating solids. This is evidenced in advanced nephritis by the retention of nitrogenous products, and in mild nephritis by the greater time and greater amount of water necessary to remove a given amount of total solid or waste products.

Even though diseased kidneys do not eliminate solids easily they have little difficulty in eliminating water. In the non-edematous type of nephritis large quantities of urine are excreted in twenty-four hours. Even in the edematous type of nephritis with general anasarca, large quan-

tities of urine are excreted when fluid intake is forced.

Consequently in studying kidney function we are not concerned so much with amount of water excreted except in so far as it affects the total solid elimination. In the matter of elimination of solids, however, it is necessary to present to the kidneys a definite amount of solid waste, for excretion, and determine how efficiently it is eliminated by comparison with the capacity of normal kidneys. Therefore, the second requirement of a test of kidney function is to present to the kidneys a definite amount of waste products to be eliminated in a unit of time and in the presence of a minimum amount of water.

The solids which the kidneys eliminate are numerous. It is conceivable that in different types of nephritis, or at different stages of the same type, the kidneys may have difficulty in eliminating one substance, and not others. In fact, in the non-edematous type of nephritis nitrogenous products are more commonly retained, while in the edematous type certain electrolytes, such as sodium chlorides, etc., are apparently retained. In the ideal type of kidney function test, therefore, one should determine the ability of the kidney to eliminate each one of its excretory products. It is too presumptuous to assume that total kidney function may be de-

*Read before Section on Pediatrics at the 110th Annual Meeting of the Michigan State Medical Society, Benton Harbor, Sept. 15-17, 1930.

terminated by the amount of elimination of a single substance, such as urea, or a dye, except perhaps in advanced cases. To date no evidence has been produced to show that any single substance is eliminated by the kidneys in the same proportion as each one of its excretory products.

The fourth requirement of any test is that it is as simple as possible, and hence more serviceable.

Most of the present day tests of kidney function do not satisfy these requirements. Our present tests depend, as a rule, either on the retention of a single substance or the elimination of a single substance. In the first group fall such tests as the determination of the blood non-protein nitrogen, urea, creatinine and urea tolerance tests. None of these tests presume to put the kidneys at a definite state of functional activity, i.e., maximum function. Also they do not determine the total excretion per unit of time per unit of volume of urine. Hence they do not give satisfactory evidence of total function and in mild cases fail to tell anything of the functional state of the kidney. And lastly, they usually involve such chemical analyses that the average practitioner cannot use them. Furthermore, it is only in advanced nephritis that there is a retention of blood non-protein nitrogen, urea, etc. In fact, Addis has shown that at least fifty per cent of the kidney is destroyed before there is a retention of these products.

In the second group of kidney function tests, those depending on the elimination of a single substance, most of the dye tests, fall, such as phenolsulphonephthalein, methylene blue, the Addis urea ratio test, and the Van Slyke urea clearance test. The same objections hold for these tests as for the first group. Special mention should be made of the Addis urea ratio test because attempt is made to put strain on the kidneys by giving large doses of urea and forcing fluids. However, the other objections still hold.

The "water excretion" test of Volhard has a serious objection. As pointed out, diseased kidneys have no difficulty in eliminating water when it is actually available. The difficulty comes in that the ingested fluid may be held in "fluid-hungry" tissues and never presented to the kidneys for excretion. The lack of diuresis is erroneously taken as an evidence of kidney damage. It is more

a test of an "edematous state" rather than of kidney function.

Hedinger and Schlayer originally proposed using specific gravity of the urine as a test of kidney function. But employed in the form that they proposed, information was misleading. Newburgh and I, desirous of devising a satisfactory test, have studied the requirements necessary to bring out the real value of determining the specific gravity of the urine.

In order to put sufficient strain on the kidneys to obtain maximum function, the patients are placed on an eighteen hour fast of both food and fluid. Thus waste products continue to be produced, but must be excreted in less and less available water as the fast continues. In order to obtain a definite amount and kinds of waste products for excretion, the patient is kept at a certain definite metabolic level. This is secured by keeping the patient at bed rest, on a definite diet and 1500 c.c. daily fluid intake during the test. Long has pointed out that the specific gravity of the urine is a fairly accurate index to the total solids. Total solids can then be measured rather than the elimination of a single substance, such as urea. The specific gravity is more than an index to excretion of total solids. It is also a fairly accurate statement of ratio between water and total solids.

Thus with these in mind we have attempted to secure maximum function of the kidney during the test, presented a standard waste for excretion, measured the total solid excretion in relation to the amount of water used over a definite period of time and with the use of a technic and apparatus within the range of the average practitioner.

In practice the test is done as follows: The patient is put at bed rest on a definite diet with 1500 c.c. of fluid intake daily for a period of three days. At 6:00 P. M. of the third day all intake, both food and fluid, is stopped until noon the following day. The urine specimen from 10:00 A. M. to noon is obtained and its specific gravity carefully determined by use of the pyknometer.

This technic was used on one hundred and twenty cases, twenty-five of which were normal, and ninety-five of which had clinical evidence of kidney damage. All the normal cases reached a specific gravity of 1.026 or above. All but four of the abnormal cases failed to reach 1.026. These four were cases

of essential hypertension and the high specific gravity was presumably evidence of the satisfactory state of the kidneys.

In comparison, this test conformed to the clinical findings in 36 per cent more cases than the P. S. P. test and in 73 per cent more cases than the blood N. P. N.

The test is not ideal, and presents some

objections in its present state. It is, however, more accurate than the commonly used tests of kidney function. It is also simple and within the range of the average practitioner.

The objections have provided new fields for further study, and consequently the possibilities of improving the test.

GAS-BACILLUS INFECTION

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DETROIT, MICHIGAN

Gas-bacillus infection or gas gangrene is a virulent infectious disease occurring in wounds involving destruction of tissues, particularly striated muscle; and characterized by extensive necrosis of the part involved, together with production of gas in the tissues.

The condition was first described by Maisonneuve in 1853 under the name "gangrene foudroyante." In 1864 Pirogoff described the same condition, naming it "acute gangrene edema." It has also been described under such names as gas gangrene, acute mortification, fulminating gangrene, emphysematous gangrene, gaseous phlegmon and traumatic spreading gangrene.

Little was known about this subject previous to the recent World War due to relative infrequency of the disease. During the recent war, gas-bacillus became a frequent and severe complication of wounds. The soil in Northern France and Belgium was highly contaminated with many forms of organism due to the dense population and extensive fertilization. Trench warfare offered a splendid opportunity for contamination of the skin and clothing with mud and filth and when wounds were incurred a favorable soil was formed in the torn and lacerated tissues for incubation of the organisms. Cases were more frequent after a rain or during wet weather. Etiology: Infection may occur in any of three types of wounds.

1. Crushing injury with rupture of the skin.
2. Puncture wounds with excessive bloody extravasation.
3. Laceration with extensive tissue damage.

Under these heads may be classified gunshot injuries, shrapnel and shell wounds, compound fractures contaminated with soil or street refuse, crushing injuries of the

street or injuries from high explosives. Gas infection following factory injuries is rare.

Several organisms are found, all of which are anaërobic in their growth. In the presence of oxygen, incubation does not occur, but the infection may become latent due to the presence of spores. They are divided into two main groups according to their biologic reaction. The saccharolytic group or those having the property of fermenting carbohydrates include *Bacillus fallax*, *Bacillus welchii*, *vibrion septique*, *Bacillus cedematiens*. The proteolytic group or those causing protein decomposition are *Bacillus Sporogenes*, *Bacillus histolyticus* and *Bacillus putrificus*. The proteolytic group cannot produce gas gangrene without the presence of a saccharolytic member.

Bacillus welchii, the most commonly found organism, was cultured from 72 per cent to 80 per cent of wounds in the recent war. In 10 per cent of these, gangrene set in as a complication. It was discovered independently by three different workers: First by Welch and Nuttall in 1892, who gave it the name *Bacillus aërogenes capsulatus*. In 1893 Frankel described a similar organism as *Bacillus perfringens* which was later identified as the *Bacillus welchii*. The organism is a short, gram-positive, non-motile bacillus occurring singly or in pairs. It has a definite capsule and except for a

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few strains is non-spore forming. The organism is found as a normal inhabitant in the intestines of humans and certain animals. It is both saccharolytic and proteolytic but never attacks proteins in the presence of carbohydrates. It produces a soluble toxin which has hemolytic properties. It rarely occurs in pure culture but usually with other gas bacilli of either group and often in symbiosis with streptococcus, diplococcus and *Bacillus proteus*.

Vibrio septique was discovered by Pasteur in 1877. It was found in 12 to 16 per cent of war wounds usually associated with *Bacillus welchii*. It is a slender gram-positive, motile, spore-forming anaerobe. Spores are oval and subterminal or central. It produces a powerful hemolytic toxin.

Bacillus cedematins was first described in 1915 by Weinburg and Sequin, being found in 34 per cent of war wounds. It is a large gram-positive non-motile bacillus with subterminal spores. It may occur in chains in culture. A milder soluble toxin is produced.

Bacillus fallax was also described by Weinburg and Sequin during the war and is comparatively rare. It is a gram-positive, slightly motile, capsulated bacillus with subterminal spores. It is non-hemolytic, no toxin is produced and is but slightly pathogenic.

Bacillus sporogenes was described first by Metchnikoff in 1908. Weinburg and Sequin found it to occur in 27 per cent of war wounds. This is possibly the same organism as Koch's bacillus of malignant edema. It is a gram-positive actively motile spore-forming organism.

Bacillus histolyticus is a gram-positive, motile, spore-forming anaerobe with large oval terminal spores. A non-hemolytic soluble toxin is formed. The infection is unusual in that there is rapid destruction of tissue, so that within 24 hours of inoculation the bone may be exposed and yet the animal appears well. Eight cases were reported by Weinburg and Sequin during the World War.

Bacillus putrificus was described in 1884 by Bienstock as being a gram-positive, motile, non-pathogenic anaerobe with a terminal oval spore.

OCCURRENCE

The mode of infection is mechanical and usually occurs at the time of injury. Frag-

ments of clothing, street dust or other foreign matter is carried into the wound by the injuring body and is embedded in the lacerated tissues. This becomes shut off from the outside air by blood clot, exudate and closing in of the wound, thereby forming an ideal culture medium for the growth of anaerobic organisms. Striated muscle is most often and most readily affected. Infection without the involvement of muscle tissues is rare. Occurrence in order of frequency is in the thigh, leg, arm, fore-arm and foot. Gas infection in the hand is uncommon, rare in the face, neck, chest and abdomen and never seen in the head, except by accidental contamination with surgical instruments.

PATHOLOGY

Growth of the organism usually begins at the site of an infarct or where the blood supply has been cut off. During incubation, gas and toxins are produced. The gas (by pressure) causes a shutting-off of the blood capillaries and a subsequent anemia of the adjacent tissues. The organism attacks this tissue, fermenting the muscle sugars, causing the further production of gas, while the toxin digests the tissue, forming an amber colored foul smelling fluid, which has a characteristic mousy odor. This fluid becomes brownish in color when blood is present. The muscle appears at first pale, later becoming a dark-red, after which liquefaction takes place. The gas may travel along the muscle planes causing metastatic areas of infection. The accumulation of fluid in the tissues results in a severe edema. Subcutaneous tissues may be involved but this is usually secondary to infection in the muscles. There is a little tendency of the infection to penetrate inter-muscular septa and spread to other groups of muscles. When this does occur the whole limb may become gangrenous due to shutting-off of the blood supply to the distal part and dry gangrene of the terminal parts may be present as well.

Thrombosis of the larger vessels may occur. The muscle is affected at irregular intervals, there being often normal tissue between areas of infection. Necrosis occurs more rapidly towards the periphery. Small glittering silver bubbles denote the presence of gas. Later the muscle becomes brown or black with the presence of large gas bubbles and forms a pasty foul-smelling substance, the product of tissue necrosis.

Areas of waxy necrosis of the muscle may appear remote from the primary focus. Small hemorrhages may appear on the skin and the presence of gas and fluid in the subcutaneous tissues is indicated by the edema. Obliterative endophlebitis and endarteritis are often seen which may be due to pressure changes or to the presence of a thromboembolus. Subcutaneous gas is usually from the muscles. There are three zones of development characteristically present. The first zone or primary focus consists of a tearing wound with ragged necrotic edges and having a foul exudate which contains gas, bacilli and spores. Foreign bodies may or may not be present in the wound. The second zone is adjacent and presents an area of hemolytic edema in the subcutaneous tissues and contains gas bacilli. The third zone is formed by the remote areas having a toxic yellow edematous fluid with small bubbles of gas and showing discolored areas over the skin surface. Various gases are formed, among which are hydrogen sulphide from protein decomposition, also carbon dioxide from fermentation of muscle sugar. The gases readily support combustion.

PHYSICAL SIGNS

The first signs of gas bacillus infection appear in 6-30 hours. The skin edges are necrotic, beneath which is dark crepitant muscle. There is at first little swelling or pain while the skin is a light copper color around the wound. Bubbles are present in the discharge. Absence of heat and redness is quite noticeable. Late, the skin becomes dark around the wound and the discharge becomes foul and profuse. The skin shows orange brown patched over the gas bubbles and edema is seen in the involved area. The areas are quite painful.

The skin becomes irregularly discolored and small hemorrhages of the skin may be present. On palpation, the tissues are crepitant and resonant on percussion due to the presence of gas. On incision of the tissues, a blowing sound of escaping gas can be detected.

SYMPTOMS

At first, there is a slight rise in pulse and temperature with local tenderness of the wound. Later, the temperature and pulse rise sharply to 104°-105° and 140-160 respectively. There is marked pallor, the tongue is moist and the breathing is rapid and of the Kussmaul type. Dyspnea may

be due to the acidosis or to the action of the excessive carbon-dioxide on the respiratory center. If septicemia occurs, the pulse rises further while the temperature falls. The patient becomes markedly prostrated, and may be drowsy though consciousness is usually maintained. There is a marked hyperhidrosis, as well as icterus. The blood shows diminished coagulability, increased bile pigments and decreased hemoglobin. The urine contains albumin and granular casts and often blood. The temperature usually falls below normal before death. The course of the disease is similar to that of poisoning from snake venom.

ROENTGENOLOGICAL FINDINGS

The roentgen-ray examination is of prime importance. Suitable radiographs of the part involved should be made in two different planes and after all casts, splints and dressings have been removed. Radiographs should be developed, fixed and examined as soon as possible and not placed in the regular routine of the department. It is my practice to X-ray all compound fractures and suspected gas infection cases no matter how slight or extensive the injury may be, every six hours until a diagnosis has been established or until all suspicious gas shadows in the soft tissues have disappeared. At six and twelve hours, gas shadows are usually present in the soft tissues. Examination is repeated to determine whether these shadows have increased or decreased. Increase in the shadows indicates the presence of gas infection. Decrease in the shadows indicates that they were due to the presence of air introduced at the time of injury. Gas infection due to *Bacillus welchii* shows irregular beaded streaks of decreased density in the muscle planes and extends cephalad and caudal from the wound. Shadows of decreased density may be also found in the subcutaneous tissues adjacent to the wound. Findings in gas infection due to other organisms are essentially the same, except that the soft tissues present a feathery appearance due to a different distribution of the gas. Deep seated gas is recognized on the radiographs before crepitation of the soft tissues is clinically apparent. The extent of gas formation is not an accurate diagnosis of the extent of infection since gas bacilli can be found beyond the demonstrable gas shadows. Low voltage should be used in order to accentuate the soft

tissue shadows. Routine examination of suspected cases at frequent intervals, besides being a necessary clinical procedure, also stimulates inter-department coöperation, which is very important especially between the departments of bacteriology, roentgen ray and the surgeon. The reason for the above statement is that it has been noted in hospitals that the death rate from gas infection is rather in inverse proportion to the extent of coöperation among the departments mentioned.

DIAGNOSIS

Diagnosis is made on the findings of altered breathing and rapid weak pulse associated with a foul discharge from the necrotic wound and gangrenous tissue. The presence of gas in the tissues and the findings of the anaërobic organisms in the discharge is pathognomonic of a gas-bacillus infection. The rapid course of the disease is also more or less characteristic. Positive roentgenological findings offer the best practical means of establishing an early diagnosis. Stab cultures from the wound also give early positive findings.

PROGNOSIS

Prognosis is dependent on the time when treatment is instituted after infection has taken place. Statistics vary from 26 to 56 per cent mortality or even higher when treatment is delayed. When treated within twelve hours after injury, the mortality is 10 per cent, and within twenty-four hours, 50 per cent. Untreated cases are invariably fatal. The presence of foreign material in the wound is of bad prognosis. Secondary pyogenic infection tends to increase the gas bacillus infection and hasten the process. Due to the fact that the pyogenic organisms are aërobic and consume the oxygen present in the tissues, the field is rendered anaërobic, thereby aiding in the spread of the disease. The case is fatal when the organism invades the blood stream. Sudden death may follow gas embolism.

TREATMENT

Early recognition of the disease and institution of treatment is essential. The case should be strictly isolated and individual dressing trays used. Thorough debridement of the wound should be performed removing all foreign matter, and removing by sharp dissection all torn and necrotic tissues. The wound should remain open in order that

oxygen may be constantly present about the tissues. The patient should be so placed as to promote a good blood supply to the injured part. Where gas and edema are present, the skin should be widely and frequently incised and the wounds exposed. Incisions should be made longitudinally and extend into healthy muscle. Thorough and frequent irrigation of the tissues with potassium permanganate solution, hydrogen peroxide or more especially Carrel-Dakin solution (0.5 per cent hypochlorous acid) should be done. Infiltration of the healthy tissues above the affected area with oxygen will in many cases limit the spread of infection. Amputation in certain cases is advisable and is dependent on the extent of the infection and the general condition of the patient as well as the severity of the surgical procedure. Intravenous injection of sodium bicarbonate solution to counteract the acidosis is of value. Shock should always be controlled. Serum therapy should be used in all cases. A serum is now available on the market containing both tetanus antitoxin and welchii antitoxin. Blood transfusion is of value in cases of gas infection where there is marked blood destruction. Also sutures about the wound should be avoided and, if present, should be removed at once. Amputation when performed should be high up in the healthy tissues. An X-ray examination is of great value in determining the approximate extent of the infection and a suitable site of amputation. The wound should not be closed until all evidence of gas and edema is gone and cultures from the tissues are negative.

We feel that the new perfringens serum, if given every four hours in 100 unit doses using from six to ten doses according to the severity of the infection, intramuscular or intravenous, the latter being by far the most efficient method of treatment, has greatly reduced our mortality rate. Of course, its success partially depends on an early diagnosis.

These findings are based on a study of about seventy-five gas cases in which all methods of treatment were used. The following is a copy of history and mode of treatment in one of our most recent cases treated with perfringens serum:

A. G., H. 14819, aged 7 years, complained of swelling and pain in the left hand and forearm.

On October 15, 1930, the patient fell from a porch to the ground and suffered a compound fracture of

the left radius and ulna which was reduced by a private doctor. Two days later, October 17, the parents called a doctor, because of fever, swelling, blebs and beginning gangrene of the left hand. They were told that the splints had been applied too tightly. On October 18 the patient's condition became worse and he was admitted to hospital.

Past history.—The patient had always been



The illustration is that of the left arm showing the fracture of both the ulna and radius with the tissue distended with gas. This gas is seen extending upwards to about the lower half of the humerus.

healthy, bright, active, normal in every way. He had had measles; made an uneventful recovery.

History by symptoms.—Entirely negative, no symptoms suggesting any pathology. Physical examination revealed a well developed, well nourished Italian boy of apparent stated age, apparently acutely ill.

By symptoms—negative except for left arm. The arm from the shoulder down was swollen. From the elbow to the finger tips, the swelling was most marked. Large bluish blebs filled with fluid appeared on the skin. The skin was dark colored, in places black, but generally was dull dark red. Air crepitus was felt halfway up the arm to the shoulder. There was no sensation, no pulse, below the elbow.

Temperature was 102; pulse, 110; respiration, 22.

A radiograph taken within an hour after admission showed "extensive gas infection. Also fracture at the junction of the upper and middle thirds of the radius and lower and middle thirds of the ulna in good apposition and alignment."

Treatment.—The patient received 26 c.c. gas gangrene serum immediately upon admission. A few hours after admission (when parental authority had been obtained) slits were made through the skin and fascia in the left arm and the muscles were dissected free from the wrist to the shoulder. The patient's condition was poor. He was given caffeine sodium benzoate and adrenalin at the time of operation.

After operation the patient was treated with perfringens serum as follows:

11-18-30, 100 units anti-serum 26 c.c., 1:30 P. M.;
2:30 P. M.; 8:30 P. M.
11-19-30, 3:30 A. M.; 10:00 A. M.; 1:30 P. M.
11-20-30, 6:00 P. M.
11-21-30, 2:00 P. M.; 8:15 P. M.
11-22-30, 4:00 A. M.; 11:15 A. M.; 5:00 P. M.;
9:30 P. M.
11-23-30, Operation.
11-24-30, 2:00 A. M.; 6:00 A. M.
11-25-30, Temperature normal.

In all, at least 16 ampules (100 units) were given intramuscularly over a period of less than seven days, six of these being given in the first twenty-four hours.

Local treatment consisted of 20 minute warm permanganate soaks Q. two hours on the even hours, and hydrogen peroxide irrigations Q. two hours on the odd hours,—light cradle all the time.

On October 23, there was a definite line of demarcation just above the elbow so at 9:15 A. M. the arm was amputated at the junction of the upper and middle thirds.

On October 24 the patient's condition was greatly improved; about noon anti-serum was discontinued and on October 25 the patient's temperature fell to normal. He made an uneventful recovery with good closure of the incision made by amputation. He was discharged November 11, 1930.

Laboratory findings October 18 were: Hemoglobin, 70 per cent; white blood cells, 29,200; polymorphonuclears, 93 per cent; mononuclears, 7 per cent. Gas bacilli (*welchii*) were found in large numbers in daily cultures until November 5, after which time stab cultures proved negative.

CONCLUSIONS

1. Ray all suspected cases of gas infection every 6 hours.
2. Ray all compound fractures occurring as a result of a street accident.
3. Use perfringens serum 100 unit doses every 4 hours. Doses varying from 4 to 10, according to the severity and extent of the infection.
4. Complete debridement of all wounds.
5. Never suture wounds in a suspected case of gas infection.

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DUODENITIS

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The literature is rather scant regarding the description of duodenitis, its relationship to ulcer being barely mentioned. However, as far back as 1897 Hemmeter described a condition which he included in his discussion of chronic gastritis which undoubtedly resembles the cases which at present are called duodenitis. He differentiates two main types, a hypertrophic and an atrophic type. The hypertrophic type is described as a diffuse redness with inflammatory infiltration of the interglandular and submucosal connective tissue with small round cells. Frequently the muscularis is also hypertrophied. When intense inflammatory reaction occurs, necrosis of the mucosa and submucosa form shallow erosions and ulcerations with hemorrhage.

In this connection the observation of Boas, Huseman, Puhl, Roeder, MacCarthy and Judd are of interest. Roeder investigated the question of duodenitis and inferred that it is a relatively frequent condition. He believes that the chronic type is quite common and describes characteristic cobweb-like peritoneal adhesions surrounding the first portion of the duodenum, attached at times to the liver and to the gall bladder. The walls of the duodenum feel thickened and the peritoneal coat seems congested.

Boas, Huseman, Konjetzney and Puhl have described acute shallow erosions of the mucosa of the stomach and duodenum associated with a duodenitis and gastritis and at times complicated by gross hemorrhage.

In discussing duodenitis, MacCarthy writes, "There is cellular destruction, congestion, edema and migration of leukocytes, lymphocytes and endothelial leukocytes. The condition is seen as localized and also diffuse lesions; when diffuse, the appearance of the organ at exploration is not readily confused with duodenal ulcer; but when it is localized, the external appearance of the serosa is indistinguishable from that seen in association with small ulcers."

Judd has described two distinct lesions in the duodenum, either of which may be found when there is a characteristic history of peptic ulcer. The true crater ulcer is recognized by the congestion and stippling of the serosa over and surrounding the lesion with

more or less scar tissue and deformity of the duodenum. The wall of the duodenum is always indurated, and a tumor may form as a result of the defensive reaction of the surrounding tissue if the ulcer has perforated the bowel slowly. The second type he called "duodenitis," or "submucous ulcer," which is characterized by congestion and stippling of the serosa, but with slight induration. On opening the duodenum there is a localized or diffuse inflammatory condition of the duodenal mucosa and often small superficial mucosal abrasions. The mucosa bleeds easily if manipulated.

Rivers has recently reported three cases of duodenitis, all of which had hemorrhage rather than dyspepsia as the prominent symptom. If operation was performed very shortly after the occurrence of hemorrhage, acute lesions were demonstrable in the potential areas of peptic ulcer. If operation was postponed, and later advised mainly because of the history of hemorrhage, very little was found to account for the bleeding.

In his opinion many of the cases of so-called appendiceal bleeding or gall bladder bleeding are probably caused by such acute lesions in the stomach or duodenum.

Nickel has previously reported the experimental production of duodenitis in animals by the intravenous injection of bacteria isolated from foci of infection in patients having duodenitis. Nickel and I have also reported a study of surgically resected peptic ulcers and cultures from foci of infection in patients having such lesions, and have been able to reproduce the lesions in animals with the organisms isolated and also have demonstrated the organism (a type of streptococcus Viridans) in surgically resected human ulcers as well as in the experimentally produced ulcerations. In our opinion the organism is essentially the same in duodenitis.

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tis and peptic ulcer, and the difference in histopathology is the difference in the reaction of the individual duodenum to an invading organism. We might therefore define duodenitis as a circumscribed or diffuse inflammatory hypertrophic condition usually involving the first portion of the duodenum and often associated with shallow erosions or ulcerations, and not infrequently hemorrhagic.

Dr. Nickel and I made a study of forty-seven surgically verified cases of duodenitis in some of which definite ulceration was also associated. The resected specimens were stained and fixed for histopathologic study and the case histories carefully analyzed. We were particularly anxious to see if there was a characteristic symptom-complex for duodenitis.

Forty of the forty-seven patients were men, seven were women. The average age was 40.6 years and the average age at the onset of symptoms was 32, while the average duration of pre-operative symptoms was 8.6 years. We were unable to find any relationship of this condition to occupation. Twenty-one of these patients did work which required considerable physical effort, whereas twenty-six were employed in sedentary occupations.

The gastric acids in this group were uniformly quite high. A positive diagnosis of duodenal ulcer was made by the roentgenogram in forty-one out of the forty-seven cases, yet in only eight of these forty-one cases was the pathologist able to discover an actual ulcer in the surgically resected tissue of the duodenum.

In the thirty-nine cases in which the pathological examination revealed inflammatory change but no evidence of ulcer formation, the symptoms for ulcer were a little atypical. The relief of food and alkali was not as definite as in ulcer. Twenty-seven complained of much flatulence soon following meals. Frequently the time of onset of epigastric pain or discomfort was described as coming on late after the meal and often vague. In twelve, there was a history of nausea, and vomiting occurred at regular intervals, usually at the height of the distress. The majority of these cases gave a history of remission of their symptoms. Referred pain into the back or chest was described by twenty-four of the forty-seven. In twelve, acute pain was experienced, this

mainly occurring in those cases in which actual ulcer was found. Sixteen gave a history of hemorrhage. It is interesting that some of the most severe hemorrhages occurred in those cases in which only inflammatory changes were discovered at operation. One would get the impression that the symptoms produced by duodenitis alone were not as severe as those produced by duodenal ulcer associated with duodenitis.

There was another group of these patients who complained of very little dyspepsia with slight distress in the epigastrium, coming on at irregular times after meals, but who had periodic attacks of bleeding. The roentgenograms in these cases were not always positive for any duodenal lesion. The acids were usually low. There was frequently a history suggesting infections such as tonsillitis, adenitis and arthritis, etc. In these cases, surgery was usually advised, mainly because of the history of hemorrhage, and at operation, particularly if this was done at a considerable period following the hemorrhage, very little was found to account for the bleeding grossly, but microscopic study of resected tissue showed mild but definitely inflammatory reaction.

The symptomatology of duodenitis would seem to resemble the clinical picture of duodenal ulcer, and yet in part reflex gastric disturbance. It is impossible to differentiate with certainty, clinically, those cases which have only duodenitis from those which have duodenal ulcer. When there is an association of duodenal ulcer with duodenitis, the symptom-complex is very much like that presented by duodenal ulcer. In those cases where there is only inflammation in the duodenum without actual ulcer formation the symptoms lose the sequence of events which we usually associate with peptic ulcer. In nineteen cases, the story given by the patient might lead to the diagnosis of chronic cholecystitis.

Dr. Kirklin has recently published the roentgenoscopic data on duodenitis and brings out certain roentgenologic differences between duodenitis and frank duodenal ulcer which helps to differentiate these more clearly than is possible to do clinically. He states that the duodenal bulb in duodenitis is quite irritable, greatly deformed and diminished in size; often it is represented by a mere skeleton of the barium content. Margins of the bulbar shadow tend to be

hazy and indistinct. The irritability of the bulb is characterized by writhing and rapid emptying, making it difficult to fill the bulb for any length of time. The spastic deformity is more pronounced than that produced by true ulcer alone and is more unstable unless the bulb is immobile. Since a crater is lacking, a marginal niche or central barium fleck cannot be seen. In general the stomach is small and hypertonic with exaggerated peristalsis. Six hour barium retention never occurred in this series.

This complex of signs is not essentially different from that resulting from a reflex irritable bulb as may be found associated with disease of the gall-bladder or appendix. Reflex irritability is more likely to change rapidly in contour and assume a normal outline more frequently. Such differences of course are slight and a definite diagnosis cannot always be made. However, a bulb which is reluctant to take on a normal outline is open to suspicion and particularly so if during the emptying phase the cap is spastic, irregular and skeleton-like.

The question arises "Is duodenitis just a stage of true ulcer formation or does it always remain a definite clinical entity?" Konjetzney, in 1924, declared that in every one of twenty-two cases of duodenal ulcer pronounced chronic, gastritis and duodenitis were present, and in 54.5 per cent of them there were also fine and coarse mucosal defects. He believes that duodenitis is antecedent to duodenal ulcer, and that chronic

ulcer forms as a result of unknown functional mechanical factors on the basis of chronic duodenitis.

Judd concludes from his study that duodenitis is not a stage from which true ulceration invariably develops, as shown by the fact that the average duration of symptoms of the two lesions is about the same in his series of cases.

It would seem best to conclude that duodenitis may definitely run its course as such or with but slight submucous ulcer formation in certain cases, but in other cases, where a greater gastro-intestinal chemical upset is produced due to the presence of the inflammatory reaction in the duodenum, the corrosive action of the highly acid gastric secretion and the upset alkaline intestinal secretion starts an erosion which penetrates into an area of this inflammatory zone where the defense reaction is poorest and a definite peptic ulcer is formed.

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PROGRESSIVE LIPODYSTROPHY*

REPORT OF CASE

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There are in the literature several rather complete reviews^{1,2,3,9} of the entire subject of progressive lipodystrophy, so here we shall report briefly a case with atypical onset. It is only by reporting these cases as often as they are noted that we can hope to arrive at even generalizations regarding the etiology of the disease. Numerous writers have endeavored to discuss the causal factors, but as yet there are too few cases mentioned in the literature to warrant any conclusions.

*We are indebted to Dr. F. N. Smith and Dr. D. A. Haller for permission to report this case.

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REPORT OF CASE

Chief complaint: "Sunken cheeks."

Family history: Father died of apoplexy, aged forty-six years. He had been overweight for years, with no abnormal distribution of fat. Mother died of cancer, aged forty-six years. Little is known of her build, except that she had a long, thin face. The

patient has two brothers who are living, and both are tall and slender. She has two living sisters, who are slightly obese but normally proportioned. No relative is known to have had a disease similar to the patient's. Past history: As an infant, the patient was extremely fat and remained so up to the age

sunken cheeks, which she desired to have changed by plastic surgery if it were possible.

Physical examination: General examination: The patient's upper body presented a striking contrast to the lower portion; the face, arms, and thorax, down to the iliac crests, had absolutely no palpable sub-



Fig. 1. Bilateral absence of subcutaneous tissue.

of about seven years. At that age, she had numerous minor infections, such as boils, styes, felonies on fingers, etc. She had a tonsillectomy at sixteen years of age. At the age of eighteen, she had "meningitis." During the next year or two, her face became longer and thinner, but not sunken in at the cheeks. At the age of nineteen and for three years following, she had, each spring, attacks of chills and fever, called "malaria," which ended by the month of July or earlier if she changed her geographical location. Without apparent cause, her hearing began to fail at about the age of twenty-three. Three years later, she had an attack of appendicitis while away from home, but she did nothing about it until returning to her family physician, who then advised operation. Two months later, she had an appendectomy, bilateral oophorectomy and salpingectomy. After the operation, she weighed only 105 pounds; previously her best weight had been 135 pounds.

"Soon after the operation," she began to get thinner from the waist upward, including the face and arms, while the legs remained of normal proportion. This loss of fat was rather rapid, in that it took place over a period of a few months, and that of the cheeks was particularly noticeable because of their sunken condition. The disturbance of the distribution of fat had remained unchanged up to the time of our examination.

Some six months after the laparotomy (at the age of twenty-six years), she became subject to attacks of spasms (the attacks would last five to ten minutes) and "my whole body, including my tongue, face, arms, and toes, would seem to become locked up or stiff." "If I tried to stop it, I only made the spasms worse." If left alone, she apparently would relax spontaneously after five to ten minutes. These attacks were usually associated with emotional outbreaks, chiefly crying. The tonic spasms varied in frequency and were present from two to three years after the operation and then suddenly stopped of their own accord.

Present illness: The patient came into the clinic with no physical or mental complaints other than

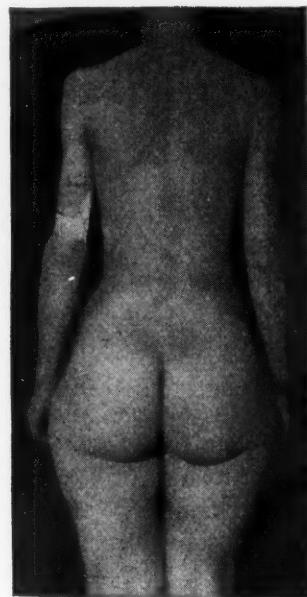


Fig. 2. Normal female contour from iliac crests downward.

cutaneous fat. This condition gave the upper part of the body a masculine appearance, while the lower part showed the normal female contour. Her weight was 117.5 pounds. The hair distribution was normally feminine.

Examination of the nose, throat, thyroid, and lymph glands was negative. The heart was not enlarged. It had a normal rate and rhythm. No accentuations nor murmurs. Lung fields were clear to physical and X-ray examination. Abdomen: No masses. The spleen and liver were not felt. On vaginal examination, the ovaries and tubes were not felt.

The routine laboratory examinations were negative. Neurologic examination: She was decidedly self-conscious about her physical condition and had consulted many physicians in hope of finding someone who could remove the disfigurement, particularly of her face.

Her station and gait were normal. There was no ataxia and no tremors. No adiadoikinesis. No astereognosis. There were no deformities, other than the disturbance of fat which was mentioned above. There were no muscular atrophies except a slight bilateral facial atrophy.

Cranial nerves: The pupils were regular and equal; reacted to light and accommodation. The extra-ocular movements were normal. There was no nystagmus. There was no facial, jaw, or tongue muscle paralysis. No pharyngeal paralysis. There was a marked bilateral nerve deafness.

Reflexes: The deep reflexes were all normal. There was no Babinski. The skin reflexes were all normal.

Sensation: Motion and position were normal. Sensation for pain, touch, and vibration was normal.

Vasomotor: Negative.

COMMENTS

As this case of progressive lipodystrophy began after a bilateral oophorectomy and

two cases have been reported as occurring after menopause,^{4,8} we are inclined to consider that the disturbance or lack of ovarian secretion has some causal relation to the etiology of this disease. Up to the present time, there has been no experimental evidence to prove or disprove this surmise. The usual age of onset of this disease is from six to ten years of age, and many cases beginning in childhood have been described.^{5,6,7} The question of the rôle played in the etiology by the various minor infec-

tions which this woman has had must also be considered.

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THE EFFECT OF YEAST EXTRACT ON INTESTINAL SECRETION

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The therapeutic value of yeast in gastro-intestinal disorders has long been recognized. The discovery of vitamins as essential accessory food factors, and particularly the fact that yeast contains Vitamin B in considerable quantities, led research workers to more detailed and careful investigation of the effect of yeast on digestion.

This article is a report of a study of the physiological action of yeast extract on the intestinal mucosa and of its effect on the periodical secretion of intestinal juice. The "periodical activity" of the digestive apparatus was discovered by W. N. Boldyreff in 1901. The nature of the "periodical activity" is discussed in his recent work¹ which contains also a full bibliographic account of the most important papers pertaining to this subject. Those who are primarily interested in gastro-intestinal secretory and motor phenomena are referred to this publication.

In 1926, at the suggestion of Dr. John Harvey Kellogg, the Medical Director of the Battle Creek Sanitarium, the author undertook the study of the effect of yeast extract,* rich in Vitamin B, on the functional activity of the small intestine.

Hawk and coworkers,² in a clinical study of the action of bakers' yeast on the gastro-intestinal tract made in 1917, report that yeast relieves constipation and has a strong laxative effect. Murlin and Mattill³ arrived at the same conclusion and state that brewers' yeast noticeably diminishes intestinal putrefaction. Thorup and Carlson,⁴ how-

ever, question the value of yeast as a laxative, stating that: "No clear-cut conclusions seem to be warranted on the basis of the experiments on man." These authors, nevertheless, report an increase in the number of stools in approximately 55 per cent of human adults under observation. In man and rats they observed "some increase in moisture content of the stools during the period of yeast ingestion." This statement confirms the previously published findings of other investigators and points toward the increased secretory work of the intestinal canal; perhaps also either diminished absorptive faculty or increased motility of the intestinal wall. Polansky⁵ studied the response of isolated segments of the small intestine outside of the organism to the extracts of yeast during their passage through the lumen. He found that *Saccharomyces cerevisiae* had a definite stimulating effect on the intestinal tonus, and he ascribes this action to the presence in the extract of the growth-promoting fraction of Vitamin B complex. Still and Koch⁶ found that the ingestion of yeast caused a decrease of urinary phenols, which is interpreted by them as the result of the

*A food product commercially known as "Savita" made from dried brewers' yeast (by Battle Creek Food Company).
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Published works are devoted to the physiology of digestion and pancreatic function.

antiputrefactive and laxative action of yeast. Dr. Helen S. Mitchell of the Battle Creek Sanitarium showed the author tables demonstrating the effect of substances containing Vitamin B on the intestinal motility of albino rats. In the groups of animals receiving yeast extract or wheat-germ less time was required for evacuation of the bowels (private communication).

On the other hand, some investigators,⁷ in observations of the contractions of isolated segments of the intestines of rats, did not find any significant change in the motor activity of the intestine in the animals kept on a high yeast diet. These experiments as well as those of Polansky⁸ were conducted on intestines excised from the body, and while being somewhat different in the experimental method and diametrically opposite in the obtained results, are both open to the same criticism. Their data are not strictly comparable with the normal response of the intestine of the living animal.

The effect of Vitamin B on gastric motility was studied by Rose, Stucky and Cowgill.⁹ It was found that in B-avitaminosis the condition of gastric atony develops and that Vitamin B promotes gastric movements.

EXPERIMENTAL

A series of observations were made by the author on the effect of yeast extract on a litter of growing puppies. Three puppies were placed on a diet which contained yeast extract, three others being kept on a diet identical in all other respects but free from yeast extract. Puppies which received yeast extract showed more frequent bowel movements and shorter time required for the evacuation of the food residue, as shown by the first and last appearances of carmine in the feces, the dye being given orally half an hour before a meal. These observations on puppies are only of a preliminary nature and are not regarded as conclusive; yet since they confirm the data of previous workers it may be considered permissible to make a brief reference to them.

In the normal organism the digestive tract maintains a certain periodic rhythm (W. N. Boldyreff); the periods of motor activity are closely associated with the secretory work of the digestive glands (secretion of pancreatic, intestinal juices and bile) and occur at regular intervals.^{1,9}

The secretagogue action of yeast has been reported by various investigators who found

that yeast not only promotes gastric secretion but also has a "secretin-action."^{10,11} The information regarding the action of yeast on intestinal secretion is somewhat scanty. The increase of moisture content of the feces of animals receiving yeast may be considered as an indication of increased intestinal secretion (or increased motor work of the bowel), but further experimental evidence in this direction is wanting.

The object of the present investigation was to study the effect of irrigation with yeast extract of the isolated loop of the small intestine on the quantity of the juice secreted and to compare it with the spontaneous periodical intestinal secretion.

The experiments were carried out on a male mongrel dog, 2 years old, weighing about 20 kilo. The dog had a Thiry-Vella fistula. The beginning of the jejunum was used for the isolated portion. The length of the isolated loop was 25 cm. The animal had fully recovered at the beginning of the experiments, having been operated on the year before, and was in an excellent condition of health. The experiments were performed with the animal in a fasting condition; in each case it was fed 19 hours before the experiment. The amount of normal intestinal secretion was first established in consecutive observations. The collection of intestinal juice was made for 6 hours each time and the quantity of juice secreted was measured. The average secretion of the intestinal juice from the isolated portion of the jejunum in this dog was about 3.0 c.c. in 6 hours. The accompanying table gives the values of normal intestinal secretion obtained spontaneously from the isolated loop of the small intestine and the values obtained after the lumen of the isolated portion of the small intestine was irrigated, half an hour before the beginning of the collection of intestinal juice, with 100 c.c. of liquid warmed to 37.5° C. In the latter case the substance used for the irrigation of the intestinal loop is marked at the bottom of the corresponding column. The liquids used were heated to 37.5° C. in order to correspond approximately to the body temperature of the dog, to prevent possible reaction due to the thermal effect.

When the lumen of the isolated loop of the small intestine was irrigated by the yeast extract solution, 10 per cent strong, the figures obtained showed a marked increase in

TABLE
THE EFFECT OF YEAST ON INTESTINAL SECRETION
Dog No. 27, male, 2½ years old; mongrel, weighing 21 kilo.
The beginning of jejunum used for Thiry-Vella fistula, length 25 cm.

	Spontaneous secretion			H ₂ O irrigation		Yeast extract					
1st hour.....	0.0	0.6	0.0	0.0	2.0	0.0	0.4	1.5	2.4	3.4	0.0
2nd hour.....	0.0	0.0	1.0	0.0	0.3	1.0	0.4	0.8	0.0	0.3	0.5
3rd hour.....	0.5	0.9	0.0	0.4	0.7	0.2	0.5	0.0	0.0	0.1	1.2
4th hour.....	0.7	0.0	0.6	0.9	0.0	0.0	0.2	1.0	2.6	1.4	0.0
5th hour.....	0.0	1.3	1.0	0.0	0.7	0.2	1.1	0.0	0.0	0.2	0.4
6th hour.....	1.6	0.4	0.0	1.3	0.0	1.7	0.3	1.7	0.4	0.4	3.0
Total.....	2.8	3.2	2.6	2.6	3.7	3.1	2.9	5.0	5.4	5.8	5.1

the quantity of the intestinal juice secreted. On the other hand, the control experiments in which pure water or 2 per cent saline solution were used did not show any appreciable increase in the amount of intestinal juice secreted.

The average values of the intestinal secretion were: (1) Normal periodical secretion, 2.9 c.c.; (2) secretion obtained after the irrigation of the intestinal loop with water, 3.2 c.c.; (3) secretion following the irrigation of the intestinal loop with yeast extract, 5.3 c.c.

The saline irrigations of the isolated loop of the small intestine did not affect either the quantity or the mode of secretion and the latter did not differ in any noticeable way from normal spontaneous secretion of the intestinal juice. Saline irrigations were made in order to find whether the salt content (NaCl) of yeast extract had anything to do with the increase of the secretory work of the intestine. It is known that sodium chloride may act as a laxative since it exerts a mild irritating action on the intestinal mucosa. The salt content of the yeast extract solution employed in the experiments under consideration did not exceed 1.5 to 1.7 per cent. In the case of 2 per cent solution negative results were obtained; therefore, it must be concluded that the increase in the amount of the intestinal secretion obtained with yeast extract irrigations was caused by some other ingredient of yeast, and probably could be ascribed to the Vitamin B. It has already been mentioned⁵ that the motor response of the small intestine to extracts of yeast is reported to be due to Vitamin B. Recently, Kawamura¹² found that in cases of vitamin deficiency the addition of rice bran extract and Vitamin B to the diet resulted in an increase of the secretion of intestinal juice.

The secretion of intestinal juice occurs

periodically and it seems that the action of yeast extract not only augments the amount of secretion per period, but also apparently increases the number of the periods, thus accounting for the considerable increase in the total secretion. The contractions of the ends of the isolated loop of the small intestine during the periods appear to be much more pronounced and of longer duration. Therefore, it may be concluded that the motor activity was also increased. The juice secreted was natural succus entericus.

SUMMARY

The irrigation of the intestine with the extract of brewers' yeast has a marked effect on the secretion of the intestinal juice. The amount of juice secreted is greatly increased. There are also some indications that not only secretory but also motor activity of the bowel is increased.

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SIMPLE NON-SPECIFIC ULCER OF THE COLON

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By simple non-specific ulcer of the colon is meant an ulcerating lesion, not due to a specific organism, tuberculosis, typhoid, or pathology, i.e., stricture or obstruction of the ascending colon. This entity is rare, only fifty-three cases, representing the total number of cases reported in the world's literature which have been collected and very ably presented in a monograph by Maurice Barron, M.D.

The following case is reported because of the age, five years; previous cases reported have been not less than eighteen nor more than eighty years of age. In the case presented here, the focus was probably from a tonsillar infection. The pathology of the bowel is similar in each instance, but the symptomatology is obscure in its onset and is not indicative of the condition present.

This patient was seen in consultation with Dr. M. Goltz and the case history is as follows:

Patient C. D., No. 10630, age 5, sex male, race white.

Family history: Father, mother and brother are living and well.

Chief complaint: On December 29, 1930, in the morning, it was noted that the child was feverish and had a cold, with a hacking cough, and he stated that he did not feel well.

The cough ceased toward evening and has not been present since. The following day, in the morning, he began complaining of his stomach hurting him, i.e., epigastrium, which has been progressive in severity and continuous. There was no vomiting at any time. The bowels have moved by enema daily. Urination was without difficulty.

Past history: Chickenpox, 1929; measles and whooping cough, 1927.

Physical examination showed a boy acutely ill, with flushed face, moving his head from side to side, licking his lips with a continuous grunt, while holding the abdominal wall rigid. Temperature was 102.7; pulse, 136; respiration, 48. Examination of head was normal, except for mucous membrane of mouth and lips, which was dry; the tonsils were large and somewhat reddened. His chest was well developed with excursion of the diaphragm even; palpation, percussion and auscultation showed no abnormality. The heart rate was rapid; no murmurs nor arrhythmia were present. The abdomen was rigid in the hypogastric region, but tenderness was equally distributed over the entire abdominal wall, perhaps greater in lower half. There was some rigidity of the anterior edge of the right rectus muscles. The rectum was empty of fecal content, but the abdominal contents appeared pushed down behind the bladder into the right pelvic quadrant.

A diagnosis of peritonitis with pelvic appendicitis and chronic or subacute tonsilitis was made.

The patient was seen in consultation with Drs. M. Goltz and S. Jackson, who concurred in the diagnosis, and immediate operation was advised.

The laboratory record was as follows: Urine—specific gravity not sufficient quantity; albumen +;

acetone; casts granular 4+ with an occasional white cell. The white count was 40,000; neutrophils 92 per cent.

During ether anesthesia a right rectus incision was made with the escape of free gas from the abdomen of fecal odor and ballooning of ilium and cecum, but the ascending colon flaccid and cyanotic; this was followed upward about 4 inches. The bowel, here, was adherent to the right lateral abdominal wall by recent adhesions, with free fluid about one ounce encountered. After packing off and freeing the bowel, a punched-out ulcer, the size of a dime, with perforation, no free fecal content, was seen. The pelvis was normal. The appendix was long with a short meso-appendix, not acutely inflamed, rather partaking of congestion akin to the ileum and cecum. The ulcer was closed by a purse-string suture. The appendix was amputated and a rubber drain down to area of perforation was inserted.

The biopsy report of the appendix follows: "Macroscopic examination shows appendix 5 centimeters long, narrow, and congested. The microscopic examination shows the mucosa intact. The peritoneal surface shows an exudate with moderate round cell infiltration. This indicates a peritonitis with the primary trouble elsewhere."

(Signed) J. M. LICKLEY.

Subsequent course of the case was a gradual lysis of temperature, with decrease of abdominal tenderness, with removal of the drain on third day. But the child's throat became acutely inflamed, a condition to which we are inclined to believe most of the temperature was due.

No culture was made of the fluid about the perforation, but the tonsillar culture yielded repeated pure streptococci and we are inclined to believe that the ulceration was secondary to the tonsillar infection.

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THE MENTAL HYGIENE MOVEMENT*

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It is the purpose of this paper to offer a few suggestions which I have seen presenting themselves from time to time in regard to the needs of the mental hygiene movement. It is quite remarkable that a part of the program of a State Medical Association should be devoted to the prevention of mental disease. We encounter some difficulties, however, from time to time which, if they might be removed, would make this work more efficient.

It is obvious that our civilization is characterized by movements. These usually come from the laity and demand the attention of the medical profession. Some of these movements are of definite value and others are not. Each passing generation reacts against the generation coming into power, accusing the other of more crime, more immorality, disrespect for the law, drifting away from God, and a general state of degeneracy. During the Colonial days there was an interesting movement against bundling. Among the colonies at one time it was considered to be quite proper for young people to court each other in bed; in fact, fond mothers would many times tuck them in. Whether immorality was more prevalent at that time than now is difficult to state, but the custom went on until someone showed an unusual interest in the moral welfare of the young people. It was necessary for the anti-bundlers to carry on quite a vigorous campaign against this custom and they finally won in their purpose.

At the same time there were the anti-Saccharides, started for the purpose of saving the youth of the country. Sugar had been introduced and its use was accompanied with considerable pleasure. It was in great demand, tasted good, and, therefore, it was wrong and the cause of sin. The propaganda of the anti-Saccharides spread and it was generally agreed that the use of sugar was the cause of immortality, until a scientist in his laboratory discovered that carbohydrates were an important part of our food, and the movement died of acute dilatation of the heart. We continue to have the anti-cigarette movement, attributing much of disease and lawlessness to the use of the so-called "coffin nail," but making no progress because it was not based on sci-

tific facts. One sometimes questions the value of the anti-cancer movement, whether it is the proper thing and whether something of real value is accomplished.

The mental hygiene movement also came from the laity and made its way into every court, making it necessary for the medical profession to give it serious attention. Our part in this movement at the Kalamazoo State Hospital was started in 1916 when mental clinics were established in cities surrounding Kalamazoo and these clinics have now grown to such an extent that it is extremely difficult to take care of all the work. These clinics are not exactly child guidance in nature but include all types of nervous and mental disease.

In order for every movement to be successful, there must be a public demand and also it must be based on scientific facts. The demand for the prevention of mental disease is quite evident. With the crowding of our State institutions to the inability of caring for the insane and the difficulty of curing mental disease, it is necessary to do something along the line of prevention. We will, therefore, concern ourselves more with the question as to whether we have sufficient scientific knowledge to carry on this work.

Let us be honest with ourselves and admit that we are in a new field of preventive medicine, of which, as yet, many of the leading scientific facts are unknown. We might discuss the question of heredity. We are led to believe that it is an important factor in the production of a psychosis, that mental disease is intermittent according to a mendelian recessive. But have we sufficient knowledge to say that some individuals must not marry, or, if they do marry, they must not have children? As yet, we do not know anything definite in regard to the heredity

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of character traits. I wonder whether a child inherits a bad temper from his father or vanity from his grandmother, much the same as he might inherit the color of his eyes or his hair. The law of heredity applies to physical qualities. Character traits and trained patterns are beyond our scientific laws but we delight in the belief of clinging to the inheritance of character traits when we have no other excuse for educational mistakes. One can question the scientific background of a story such as that of Martin Kalikak, who united his germ plasm with a feeble-minded girl and thereby started a long row of degenerates and then reforming, used his germ plasm in a more orthodox fashion and married a nice girl and started a row of good people. We need more scientific facts instead of what appears to be a fictitious story and we must admit that the breeding of human beings is an unknown science; that many times men with great minds produce fools and that fools will produce wise men.

I feel the need of some tangible facts in regard to the influence of environment on the personality of children. I have frequently been consulted by clients as to whether it is better to send their children away to some special school for the correction of some obscure problem or whether it is best for them to keep them in the home where the conduct disorder developed and to treat the condition there. Some writers suggest that it is best for all children to be taken away from their parents, but I cannot help but believe that some parental love is necessary for a normal development.

I am in doubt many times in regard to the relationship between the physical conditions and the conduct disorders of children. In some cases it apparently exists and in others it is absent. This is especially true in regard to the glands of internal secretion. We can render an opinion, but, after all, our people are looking for cures and must have some sort of treatment. This treatment, then, consists in supplying what we think is lacking along the lines of internal secretion, and, as yet, in regard to glandular therapy I must admit I am in doubt. I believe in the work that I am engaged in but if I am honest I will agree that this movement possibly has less scientific facts than any other field of preventive medicine; so much so, that at times we must be carefully

guarded against holding out false hopes to those who are expecting from us great things.

The mental hygiene movement must have the support of every physician, not only the specialist, but the general practitioner. The clergy, the social worker and teacher are enthusiastic but the family physician at times is quite skeptical when in reality he is the one who sees and realizes the need of this type of work. Possibly he may be afraid of losing a good customer through a clinic. We can assure him that we will be very happy to refer back many typical cases of psychoneurosis or dementia præcox if he would like to have these people take up valuable time in his office. In order that the general practitioner may take an active interest in his work, let us make an effort to keep the facts of mental disease simple and clear and tangible. It is far more obscure than an organic disease, such as typhoid fever or pneumonia. I have noted that scientific journals are many times filled with complicated articles which only the superintelligent individual can read and understand. I myself do not belong to that group of people and it has been necessary to pass such articles by with regrets.

Our medical schools will do well to call their students' attention to this problem as well as to surgery and medicine. In the course of our work we have planned to establish a course of mental hygiene in a college for teachers. We took the liberty to correspond with medical schools for suggestions in regard to this course. It was interesting to note that in practically each case I was referred to the Social Administration Department of the University. I wonder why this should be. Does it not come in the field of disease or preventive medicine?

The mental hygiene movement is primarily concerned in adjusting the child to his environment. It is extremely pathetic the type of environment or the type of civilization some of our children must be adjusted to. We have no reason to be proud of our present state of civilization. The men engaged in child guidance work must adjust their children to a civilization in which marathon dancing and tree sitting seems to be the popular thing of the day. This civilization is filled with domestic unhappiness, gangsters, murderers, industrial maladjust-

ments, greed and vice, and only twelve years ago we slaughtered millions of the very best of our race. Perhaps our children themselves are not so much at fault as we are ourselves. I have noted that in many cases the trouble is not with the child but with the world into which it has been forced to live.

On one occasion it was said that Freud expressed the opinion that possibly a new Salvation Army will spread through our civilization to re-educate and fight neurotic tendencies brought about by present-day life. Scientific progress is not made by the beating of drums or in street-corner meetings. The mental hygiene movement needs individuals working alone and unseen in the laboratories, collecting accurate scientific data which we can use in our work. In a recent public magazine a writer referred to a remarkable discovery for insanity, namely, malaria. His praise of this form of treatment was quite glowing but he did not refer to the complications or the administration of such a remedy, neither did he point out the danger, but he led many individuals to believe that it is an absolute cure. We are frequently asked why we do not cure dementia praecox by the removal of teeth or tonsils or other points of focal infection. Or, again, why we do not use the somnifeen treatment in cases of manic depressive insanity. Unusual promises and untried theories and cures are not of much value to the mental hygiene movement.

We must guard against the promises of unusual cures. Recently, the statement was made that if twenty years ago we would have applied the knowledge which we have at the present time along the lines of the prevention of mental disease, one-half of our present cases of insanity could have been prevented. I am sure that I do not have sufficient knowledge to prevent at least one-half of all our cases of mental disease. It is a little more difficult and not so easy as the discoverer of the inferiority complex would have us believe. This work must constantly be carried on by individuals who have a large amount of training and who have a definite knowledge in regard to the machine producing the mental problems. We are, then, looking to the laboratory workers in our universities, to the research departments in our schools, to the individuals in child guidance clinics to supply us with information. The mental hygiene movement needs the support of the physicians and it needs research men who can enter into the lives and personalities of children and produce actual laboratory experimental results instead of planning out theories by the fireside. The mental hygiene movement does not need publicity, or propaganda, or public speakers, or conventions, but it does need seriously minded scientific men and women whose intellectual integrity will outweigh the desire for fame or fortune.

THE TRAINING AND EDUCATION OF THE MENTALLY DEFICIENT

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I have nothing new to offer those familiar with the work being done in the Institutions for the mentally deficient, but I am going to try to acquaint those who are at the present time unaware of all that the tax-payers of the State of Michigan are doing in the way of training and educating these children.

When a child is thought to be mentally deficient he is, by the order of the court, examined by two physicians, who give their opinion of his mentality, and if, in the opinion of the court, he is a fit child for admission to an institution, he is adjudged

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mentally incompetent and ordered admitted to an institution which cares for such children.

The Michigan Home and Training

School, located at Lapeer, Michigan, is that about which I am directly concerned and about which this article is written.

The present inadequate housing facilities

plete as possible the present history of the child, his ancestors and other members of the family. The findings of the physicians examining the child at the time of commit-



A CLASS IN DOMESTIC SCIENCE

of the Institution necessitate the placing of the names of the mentally deficient children on the waiting list. At the time of this writing there are over 1,375 on the list ordered admitted by the court but awaiting admission. When room can be provided for a child, the court who ordered the admission of said child is notified and the judge may order him taken to the institution.

All new admissions are placed in the receiving ward, or department, of the hospital for an average stay of two weeks. If in no way this new child is thought to be detrimental to the health of the other children, he is placed in a cottage housing those children nearest his own mental level. This short period of segregation or seclusion is done principally to avoid contagious and infectious diseases being spread throughout the institution.

Soon after admission the child is given a complete physical examination by a physician and a mental test by a competent psychologist. As soon as can be arranged thereafter, the child is brought before the staff. At such staff meetings there are present: the doctors, psychologists, a social worker, and the principal of our school. At this time the doctor presenting the case gives as com-

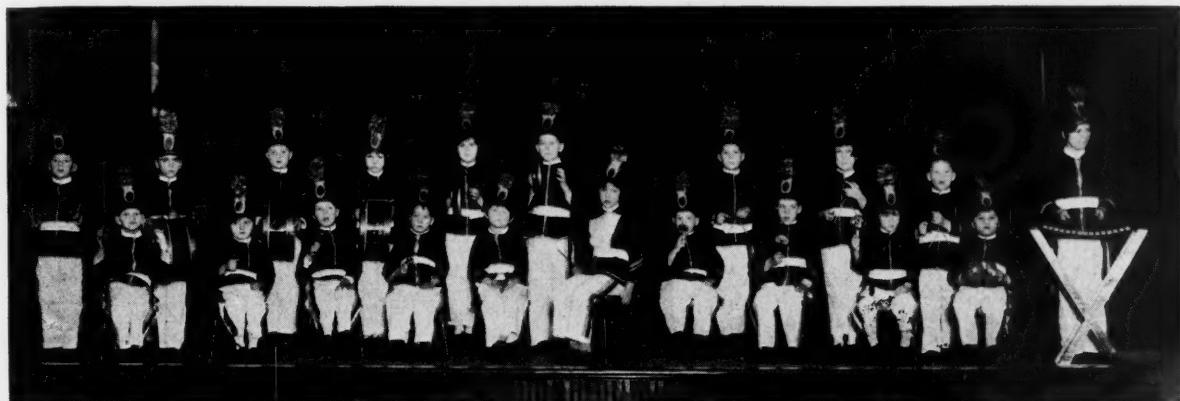
ment are presented, together with our doctors' physical and our psychologists' mental examinations. In this way the individual condition and the problem of each child is discussed freely before the staff and some decision is reached as to the best way this child can be helped.

All children sent to us are not entirely useless as is the common belief among those not familiar with our work. One classification of feeble-mindedness is to separate them into idiots, imbeciles, and morons, with an I. Q. up to 25; from 25 to 50; from 50 to 70 or 75 respectively. Feeble-mindedness may include those who, from their examination, show a mentality below test to those of the high moron level. Some authorities believe that some individuals even with a higher I. Q. are feeble-minded if they are unable to compete with their fellow-men and adjust themselves to society.

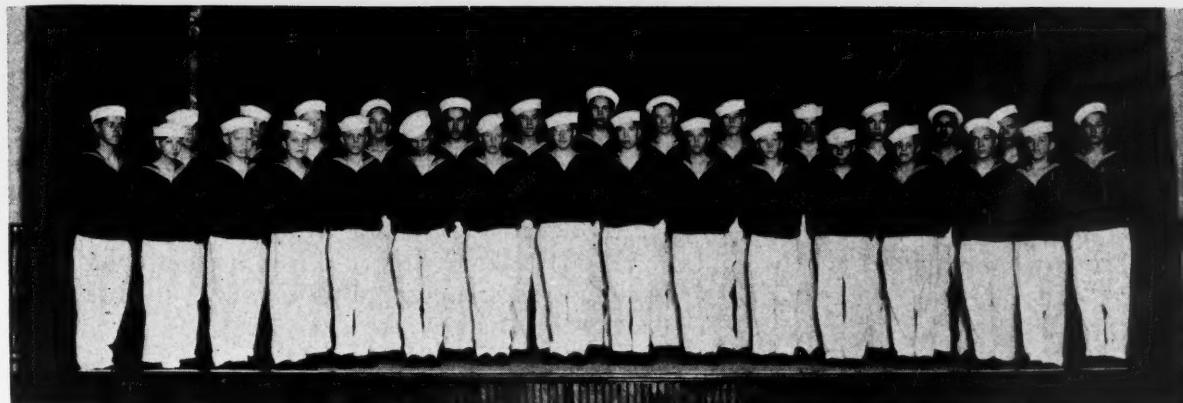
The I. Q., or intelligence quotient, is obtained by dividing the mental age by the life age. This is to say that if a boy is actually 12 years and 6 months of age (150 months) and has a mental age of 7 years 6 months (90 months) we divide 90 by 150 which gives us .60. Taking 100 as the normal,

this child measures only up to 60 per cent of what we might expect of the normal child. Authorities are quite well agreed that mental development has reached its capacity,

older. Every feeble-minded child, upon examination, with whom it is possible to obtain an I. Q. can be taught to do something. It is true that all feeble-minded chil-



THE TOY SYMPHONY



THE SAILOR BOYS OF THE CHRISTMAS PLAY CAST



THE GIRLS' GYMNASIUM

in the normal at least, at 16 years of age. Hence in figuring the I. Q. one never takes the life age for the divisor beyond 16, even though in reality the individual may be much

dren are not capable of learning and being educated to the same degree. The mentally deficient child is capable of doing everything the normal child can do who is of the life

age equal to the mental age of the subnormal child.

We know that boys of 5 year mentalities are capable of doing:

Sand papering

Brush making

Cutting rags

Sewing rags

of 6 year mentalities; all the preceding and:

Sorting and tying of bristles

Practice painting

Cutting yarn to equal length

Making coir brush mats

Rug weaving

of 7 year mentalities; all the preceding and:

Cane seating

Painting boxes, blocks, chairs, etc.

Weaving towels and napkins

Begin shoe repairing

Learns use of tools

of 8 year mentalities; all the preceding and:

Painting furniture and out-door painting

Coir braid rugs

Shoe repairing

Making boxes, bread boards, coat trees, bird houses, etc.

Begin broom making

Those over 8 year mentalities; all the preceding and:

Furniture repairing

Inside painting

Varnishing

Boys of 10 and 11 year mentalities may be taught to set type.

The girls of 4 and 5 year mentalities are capable of:

Cutting rags

Sewing rags

Bandage winding

Begin plain sewing

of 6 year mentalities; all the preceding and:

Plain sewing

Knitting, plain

Plain crocheting

Net making

Toy making (stuffing)

Cutting pictures for scrap book

Rug weaving

of 7 year mentalities; all the preceding and:

Napkin and towel weaving

Scarf weaving

Scrap books

Bead stringing

Crocheting

Plain sewing

Start learning sewing machine

Braid rags for rugs

Begin embroidery

of 8 and 9 year mentalities; all the preceding and:

Lace making

Basketry and reed work

Jig saw puzzles

Design weaving

Braided rugs

Embroidery

Power machines

Machine knitting

Domestic science

Given an individual who comes before the staff, his family history, personal history, past and present, committing physicians' statements, his general behavior before admission, including school and school progress, our doctors' physical examination, our psychologists' mental examination, and a report of his general behavior since admission to the institution—this taken with the results of the questioning of the child before the Staff often reveals a great deal which is useful knowledge in working out a plan for his future welfare. After a round table discussion of the whole condition, a recommendation is made so that the child's time may be occupied to his best advantage and that he may be developed and educated to the limit of his capabilities.

The personnel of the school consists of a corps of twenty-one teachers. The school is divided into two parts, academic and industrial.

Given a child with a certain I. Q. or mental age, and taking into consideration his general behavior and reactions under certain conditions and outlook upon life in general, we assume that we have a working basis at least upon which we can plan for his future development.

The mentality of a child and mental development must not be confused with knowledge, training, and experience. A child's mental age shows us what he is capable of doing if he be given the opportunity of learning and training under competent teachers. Degrees of mentality may be likened to a large and small sponge which will soak up just a certain amount of water. Obviously a large sponge will absorb more water than a small one. Just so with a child of a higher mental age or I. Q.: he is capable of absorbing more knowledge than one with a lower mental age. Mentality is

the capacity and it is our job to train and teach to capacity.

If the child is one who will profit by attending academic classes, he is so placed.

each suitable boy spends about $1\frac{1}{2}$ hours a day, learning to use tools in making toys.

The Fancy Work department is where the child learns hand lace making, embroider-



A CLASS IN READING

Our academic school teaches such as is taught in any good public school, from the kindergarten to and including the sixth grade. In addition to this, those not capable of starting in the kindergarten and not too old to be embarrassed or a hindrance to others, may be started in the sense training. Here the child is taught to know the sense of taste, smell, touch, etc., and to associate each with the other.

If a boy has reached his capacity in academic work and is of the manual type and is capable of learning, he is placed in the Industrial school. Here the child is taught good work habits. For the boys we have: (a) the rug room, where he is taught the use of the hand loom in making rugs, toweling, and table runners. (b) The brush and broom, where he is taught the art of making good useful brooms and brushes of all shapes and sizes. Chair caning is also taught in this department. (c) The basketry department. Here is taught hooked rug making to the younger boys and to the girls regardless of age, as well as basket making. (d) The toy shop provides a place where

ing, and hemming of towels for Institutional use.

Each suitable child spends a portion of her time each school day at dancing, vocal and instrumental instruction, and gym work. Both the boys and the girls have an orchestra of their own, and the Institution has a band composed entirely of boys.

The Domestic Science department of the Institution is attended by the girls who, in our opinion, are going to make good on parole and ultimately be discharged.

The Sewing room under the school department provides a place where the more capable girls are taught to make dresses and different articles of wearing apparel.

In addition to these different departments that are directly under the management of the school, the Institution provides various means of employment in which the child receives constructive and useful knowledge which is beneficial to him toward gaining his parole. Such places are the laundry, carpenter shop, power sewing machine room, mending room, cottage, dining room, kitchen, horse barn, dairy barn, and the

farm. The children in these various places do practically all the work but, of course, under the supervision of paid employees.

What subnormal boy or girl, who pos-

learn to use tools, form good work habits, and make many useful articles which are used in the Institution.

The power sewing machine room pro-



CLASS OF POWER SEWING MACHINE OPERATORS

sesses the qualifications or general make-up of the future parole child, is not happier in an Institution than outside trying to compete with normal children? They all are happier here. It is the delinquent child who is a misfit anywhere he is placed. He is the problem in society and is just as much of an institutional case as is the feeble-minded of the lowest mental level. Isn't it true that there is a grand and glorious feeling which comes to the normal child when he learns to do something well which heretofore he has been unable to accomplish? Just so with the deficient child. Teach him to do something and he is proud. He is full of ambition and perseverance to perfect it when competing with those of his own mental level, but easily discouraged if left far behind by his classmates. In the institution he is a leader with the other children close to his heels for class honors, which would be far from the situation in a public school.

The laundry teaches the girls hand ironing as well as the different processes through which the clothing passes in any well organized steam laundry.

The carpenter shop is where the boys can

duce many articles of wearing apparel for the children.

In the mending room the girls learn to mend and at the same time salvage a great deal of clothing which would otherwise be done only at a great expense to the state.

In the cottage there is general cleaning and scrubbing, which every good house-keeper should know how to do well.

Every girl, who is considered for a parole to a home, must know how to serve well at the table. Our so-called center dining room provides an excellent place for such training. There are about 200 employees eating three meals a day in this particular dining room and the girls of the Institution wait table. They are given instructions and taught to serve well. It is a very good training for the child and a great saving of expense to the Institution.

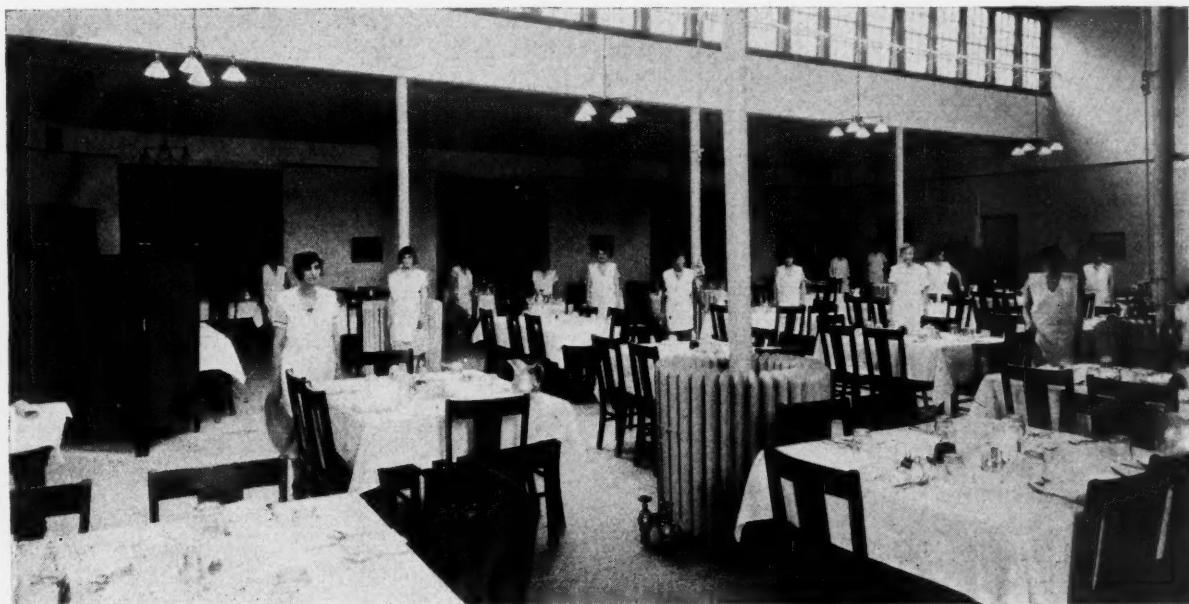
The kitchen serves to instruct in the care of general equipment, its uses, as well as in the preparation of meals.

In the horse barn the boy receives instruction in the care of the horses and teaming. The dairy farm, poultry, and the farm in general is very important, both from the

standpoint of the child and his welfare and also to the Institution in saving hired labor. It is here that the boy usually gets training which ultimately places him in a job with

are an important part of the child's training to make and keep him physically fit.

It has been the custom of the Institution to appoint a play ground director for the



CLASS IN TABLE SERVICE



CLASS IN TOY MAKING

some farmer who is glad to pay five to eight dollars a week for his services.

In our dairy barn the boy is taught the care of the cattle, milking, and preparing the milk for distribution to the different parts of the Institution.

He is also given opportunity to learn something of the care of poultry and swine.

During all this time when the children are studying and working, the Institution has not lost sight of the fact that athletics

boys and one for the girls for a period from July 1 to September 15. Each director, with his assistant, works eight hours a day with the children on the play ground; if inclement weather, games are played indoors. A baseball league is formed within the Institution and games are played three days a week and a cup is awarded the winning team at the end of the season. The boys are coached in the usual track sports found in most any boys' school, as well as organized

play for different games. Every girl, who is physically able to participate, is given instruction and an opportunity to take part in organized play.

The Institution has a troop of boy scouts of which it is justly proud. The troop has its own scout master and enjoys the usual training and instruction given to scouts together with its annual trip to camp each summer.

The school children each year are coached for the May festival which is put on, to the great enjoyment of the 2,500 spectators.

Picnics are enjoyed throughout the summer season.

There are a number of classes from different schools and colleges who make their annual visit to the Institution, at which time the children put on a program consisting of singing, dancing, vocal and instrumental numbers.

Movies are provided for the children once a week, birthday parties once a month for 6 months, thus combining the birthdays of the children during two successive months to one party, and brother and sister parties every week, at which time those of the immediate family have an opportunity to see each other and visit. Divine services for Catholic and non-Catholic children are held weekly.

The season of the school and its vacation are similar to any well organized school, and deserving children with good homes are allowed to spend their vacation with relatives.

Every Christmas the school children put on a play coached by the teachers. This past year the play was exceptionally good and the children and teachers have every reason to be proud of themselves for putting on such an excellent entertainment.

The state does a great deal for the mentally deficient child but there is no state entertainment fund upon which to draw to give these children other and more entertainment than provided by the state's money. Some years ago there was formed an Entertainment Fund by donations from those interested in these children and from time to time checks come in to be applied to this fund. The different groups visiting the Institution from different schools and colleges have always been very generous in their donations to help make the life of these children a little more cheerful.

When a child, either boy or girl, has completed his education and training, the Social Service Department tries to place him at day work in town close to the Institution for a while. If successful and adjusts himself well, he is allowed to remain away on the job by the week. He is then given a job in a town farther away from the Institution. This is not always possible and the child may be sent to some distant town without the preliminary trial nearer home. The boys usually find work on farms and the girls in the homes as domestics. These two classes of work go to make up the bulk of the jobs found for our children because they seem better fitted and adjust more readily to society.

Before any child is placed in any home or on any job, a thorough investigation is made by the Social Service Department and, if satisfactory, the child is allowed to go to work at a specified wage. The child is clothed by the employer and is allowed from 50 cents to 1 dollar for spending money and the remainder of his weekly wage is sent to the Institution, where record is made in the office and the money placed in the bank. A record is kept of each individual child's savings, but all the children's savings are banked in one fund, known as the Children's Fund. There has been saved by our parole children up to the present writing nearly 70,000 dollars. During the time the child is on parole, he is under the supervision of the Social Service Department where field workers make visits frequently and keep in touch with the child, employer, and home. When the child is thought to be well adjusted and apparently self-supporting, the Superintendent may discharge him. If this is done and the child does not need the guiding hand of the Institution longer, he is given his savings and takes his place in society, where he often becomes a useful citizen. Of course, there are failures and all the children tried on parole are not always discharged as being well adjusted. These cases are either tried at another job or returned to the Institution for further training, depending upon the reason for failure to adjust to society.

I would like to impress my readers, (1) that the child comes to us with certain capabilities; a capacity for learning: a certain mental age in which he will remain stationary after 16 years chronologically, with

perhaps a slight change up to 20 years of age. We can train and educate the child up to his mental age but cannot, of course, take a child of very low mentality and hope to train and educate him beyond what his mental age indicates as a possibility. (2) That the good mentally deficient child is happier in the Institution with less competition, with more patient and persistent teaching by those with a more sympathetic understanding for these children than can possibly be given by the public schools teaching normal children.

(3) That subnormal children as a rule are good, kind children; the defective delinquent is in a minority in an Institution of this sort. (4) That nearly all the mentally deficient children of the moron level and good physical condition can be trained and educated to such an extent that they take their place in the community, where they become good, useful citizens to society. (5) That all the high grade children are sensitive to their handicap and appreciate a guiding hand: help them.

INTRACRANIAL BIRTH INJURIES—INCIDENCE, SEQUELÆ AND TREATMENT*

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DETROIT, MICHIGAN

Attributed to intracranial birth injuries are all types of congenital paralyses, athetosis, epilepsy, amentia, idiocy, hydrocephalus, speech defects, etc. However, it must be remembered that causes other than birth trauma are responsible for a large part of the conditions just mentioned, but this must not permit us to minimize the importance of intracranial birth injuries as a factor in producing such conditions.

STATISTICAL DATA

The significance of birth injury can best be impressed upon our minds by such figures as those by Weyhe, who, in 1888, published the autopsy findings in 959 still-born babies in which he found 122 cases of intracranial hemorrhage; Spencer, in 1892, reported 40 per cent of his cases as having an intracranial hemorrhage. Schott (1920) found it in 30 per cent; Deluca (1921) in 36 per cent; Schafer (1921) in 20 per cent in 680 cases; Archibald (1909) in 43 per cent; Warwick (1919-1921) 43 per cent; Pierson (1923) 44 per cent; and Crothers (1923) in 65 per cent. In breech presentations and prematurity even higher percentages prevail. Ylppö (1922) reports an injury of greater or less severity in 90 per cent of premature infants. Holt and Howland (1919) in their text-book state that one-third of the deaths at birth or within the first few days of life are due to complications of labor. The above data are from autopsies on still-born and premature infants. According to Cruveilhier at least one-third of the deaths which occur during parturition are due to meningeal hemorrhage.

INTRACRANIAL HEMORRHAGE WITHOUT SIGNS

In the babies which survive, some may have intracranial hemorrhage and show no signs of it. Weyhe, Dowhle (1890) and Kundrat (1890) have found old blood pigment in children up to the ninth month who gave no evidence of intracranial hemorrhage at birth. Recently Sharpe has published the results of routine lumbar puncture on 500 new-born babies. The fluid was removed usually within the first 24 hours and 9 per cent of all new-born babies had bloody fluid. Hines and Roberts (1923) in routine lumbar puncture on 423 colored babies found blood in the spinal fluid in 60, or 14 per cent, and yet only 26 showed clinical signs of cerebral lesions and 12 died. We note, therefore, that a very large percentage of babies dying at birth, or early thereafter, show intracranial hemorrhage and many who are normal have blood in their cerebrospinal fluid.

LOCATION OF HEMORRHAGES

In Weyhe's 122 cases he found subdural bleeding in 80; subarachnoid in 56; intra-

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†From the Neuro-Surgical Service of Detroit Receiving (General) Hospital and the Detroit College of Medicine and Surgery.

cerebral in 35; and intraventricular in 21. McNutt (1885) found hemorrhages over the convexity of the brain in 8; and the hemorrhage at the base in 2. Spencer reported bilateral hemorrhage on the convexity in 29 and unilateral in 20 cases. In 35 cases the hemorrhages were at the base and 7 times in the ventricles, and one in the brain substance. Warwick's cases showed bleeding over the convexity in 13, bilateral in 7, unilateral in 6, into the dura in 2, over the cerebellum in 1, and ventricles in 2. In two cases of meningeal hemorrhage there was softening under the clot. The general opinion is that when the bleeding is over the cerebral cortex it is usually limited to one side. Cushing, in an article in the American Medical Science Journal in 1905, states that all of the extensive hemorrhages seen by him were limited to one hemisphere and he concludes that the unilateral is the more common.

Beneke (1910) emphasizes the frequency of hemorrhages at the base and in the posterior fossa, and Sietz (1912) has claimed that the bleeding is at the base in 50 per cent of all cases. Because of the close adherence of the dura to the skull in infants extradural bleeding is always associated with a fractured skull and it is usually complicated by lacerations of the brain. Hemorrhages into the retina have been observed by Stumpf and Sicherer, Paul, Jacobs and others in from 20 to 50 per cent of all new-born babies.

SOURCES OF BLEEDING

Bleeding may be from: (1) torn vessels of the cerebellar tentorium, in which case the blood collects upon the surface of the cerebellum, or if on the upper surface it may drain around the occipital lobes.

(2) The Great Vein of Galen may rupture at its junction with the straight sinus, when the blood will collect about the dorsal surface of the mid-brain and flow downwards around and beneath the cerebellum, pons and medulla.

(3) The cerebral veins may give way at their entrance into the superior longitudinal sinus and the blood will flow into the subdural space on one or both sides.

(4) The superior longitudinal, transverse and straight sinuses may give way. Tears of these sinuses usually result in death but not always immediately after birth.

(5) Hemorrhage of the choroidal veins may take place in the ventricles.

(6) Rarely intracortical hemorrhages may occur.

PATHOLOGICAL RESULTS OF INTRACRANIAL HEMORRHAGE

The effects of the hemorrhage upon the brain structures are determined by the location and size of the lesion. Because of the fact that the infracortical vessels do not anastomose, an intracerebral hemorrhage results in necrosis of the hemorrhagic area. Schwartz (1924) called attention to the frequency of the intracerebral hemorrhages and necrotic areas in children who die within the first six months of life. These lesions occur as petechial hemorrhages and minute necrotic areas in the central white matter and basal ganglia about the third and lateral ventricles. It is in these areas that the veins which are tributary to the vein of Galen, the lateral ventricular, choroidal veins, and the ventricular branch of the basilar vein are found. Rupture of these veins with the consequent hemorrhage results in extensive destructive lesions. Meningeal hemorrhages may result in cortical softening. Often the lesions are so small that only by the use of the microscope can they be demonstrated. The above pathological conditions occur early in the life of the child. As time elapses the supracortical hemorrhages undergo absorption and organized scar tissue results with or without cysts and this becomes permanent. Sachs feels that chronic meningo-encephalitis, sclerosis, cysts and partial atrophies are the late results of meningeal hemorrhages and Holt and Howland feel essentially the same way about it.

Subdural hemorrhages frequently form cysts, and often when the hemorrhage is completely absorbed there remain collections of fluid between the sulci. The pia-arachnoid may become opaque and thickened. This is a common surgical observation of the brains of epileptics and diplegics. Cortical defects and scars have been observed, and such authorities as Cushing, Tredgold, and Campbell ascribe them to hemorrhage from birth trauma.

Localized adhesions of the pia-arachnoid to an atrophic cortex have been definitely identified as due to birth injuries, and resulted in hemiplegia with epilepsy. Cushing describes and illustrates in one of his articles a small defect in one lobule which caused paralysis of one leg and claims it is from a birth injury.

Other lesions occurring are: a ventricular hemorrhage which may obstruct the ventricular system and cause an internal hydrocephalus, and a meningeal or supracortical hemorrhage which may obstruct the flow of cerebrospinal fluid from the subarachnoid space into the superior longitudinal sinus and produce an external hydrocephalus. "Hemorrhagic pachymeningitis" of infancy may be due to birth injury. Localized arachnoiditis may occur. Porencephaly of a bilateral type is ascribed to periventricular hemorrhage of infancy, and a cortical type due to superficial hemorrhage occurs.

MECHANICAL FACTORS INVOLVED IN PRODUCING HEMORRHAGE

We need merely mention the mechanical factors involved. (1) The most common cause of intracranial hemorrhage is due to over-riding of the parietal bones and tearing of the veins to the longitudinal sinus. (2) In breech extraction an overlapping of the parietal bones over the occipital may result in a tear of the lateral sinus and tentorial veins. (3) Dural tears may result from excessive molding. The oblique head is thought to be due to a tentorial tear.

CLINICAL EVIDENCE OF INTRACRANIAL HEMORRHAGE

Clinical signs of intracranial hemorrhage may be classified as *early signs* which occur at the time of delivery and *late signs* which occur several days, weeks, or even several months or years afterwards.

EARLY CLINICAL SIGNS

An extensive hemorrhage may result in the delivery of a dead baby; if alive, it may be deeply asphyxiated and difficult to resuscitate. The "blue" asphyxia occurs in about 90 per cent of all new-born babies and is not serious but the "pallid" asphyxia of intracranial hemorrhage is a serious condition because it is due to a vasomotor paralysis from injury to the medulla. If the child survives the pallid asphyxia it remains sluggish, languid and unresponsive, or occasionally it may be very restless. It has a feeble cry and does not nurse. Its respirations are slow, irregular, and some cyanosis may be seen. The pulse is feeble and rapid. In case of supracortical hemorrhage there may be localized muscle twitchings or even general convulsions. The child may be rigid with a retracted head. The pupils may be

unequal; even nystagmus, strabismus or exophthalmos may occur. Retinal changes with blurring of the nasal side of the discs may occur, retinal hemorrhage may be present. The fontanelles may bulge. Lumbar puncture reveals the cerebrospinal fluid under pressure and bloody.

With a picture such as this the diagnosis is rather easily made. But it is to be remembered that only about one case of intracranial hemorrhage in forty-five can be diagnosed within the first few days of life without a lumbar puncture. Roberts reports the recognition of clinical signs in birth injury in only 14 of 48 children which survived. Dr. Manton reports the death of a child due to a large hemorrhage from a torn longitudinal sinus at the time of birth, and Scheele reports the sudden death of one in the sixth week from a hemorrhage from a tear of the tentorium at the time of birth. It is to be remembered that these same signs may occur from cerebral edema, concussion or congestion. In cases in which no blood is found in the fluid a spinal manometric reading should be done in order to determine the degree of intracranial pressure.

LATE CRANIAL SIGNS

Ever since the publication of Little's article in the Transactions of the Obstetrical Society of London in 1862 such conditions as spastic diplegias, hemiplegias, paraplegias, monoplegias, congenital athetosis, epilepsy, idiocy, hydrocephalus and other conditions have been attributed to intracranial birth injuries. *Cerebral diplegia* which is designated as "Little's Disease" is considered the most typical example of the late results of intracranial birth injury and is one of the most common results. It affects the legs more often than the arms or legs alone. It is sometimes associated with bulbar palsy and muscular rigidity.

Hemiplegia either single or double may occur. The arms are more often involved than the legs. In the diplegia the hemorrhage may be supracortical from a hemorrhage either from the superior longitudinal sinus or its contributory veins, whereas if the arms are involved the hemorrhage may be near the base of the cerebrum or along the Sylvian fissure and lower pre-Rolandic area. While diplegias and other spasticities result from other causes than intracranial hemorrhage yet when this is combined with retardation in walking and mental development,

the presumption is in favor of a birth injury.

In hemiplegias and monoplegias the percentage of abnormal deliveries in some cases is as high as 70%. The heads are of normal size or enlarged, whereas in diplegias about 25% are microcephalic, so we feel that intracranial hemorrhage is more apt to be responsible for hemiplegia or monoplegia than it is for diplegia.

Another late result of birth injury is *hemorrhagic pachymeningitis*. These cases may make a complete recovery but it is interesting to note that many who are idiots, imbeciles, neurotic, stutter, wet the bed, etc., have suffered from this condition.

Hydrocephalus of both an internal and external type may result from intracranial hemorrhage. An intraventricular hemorrhage may obstruct the interventricular foramina or aqueduct, or a hemorrhage in the cisterna may obstruct the foramina from the fourth ventricle and produce an internal hydrocephalus, whereas a supracortical hemorrhage may impair the absorption of cerebrospinal fluid through the villi of the superior longitudinal sinus and produce an external hydrocephalus. In these cases the skulls may be of normal size at birth and gradually increase in size afterwards. Large fontanelles, wide sutures, and thin bones at birth are presumptive signs of hydrocephalus, but no change in the skull diameters may be noted for 2 or 3 months after birth. Associated with hydrocephalus one may observe lethargy, vomiting, convulsions, spasticity, defective mental development, etc.

Epilepsy goes hand in hand with infantile cerebral palsies. Holt and Howland observed that 33 to 50 per cent of these cases have epilepsy. Osler observed 35 cases of epilepsy in 120 cases of hemiplegia. Spratling claims that 40 per cent of infantile hemiplegics develop epilepsy, and that 11 per cent of 1,070 cases of epilepsy studied by him were due to infantile palsies. In other words about 3 per cent of all cases of epilepsy are related to birth injury. Mental defects may be due to birth injury but probably not more than 1.5 per cent of idiots are a result of birth injury although Potts ascribes 12 per cent in a series of 5,430 cases as being due to birth injuries. Beach and Shuttleworth estimate that 17.5 per cent of idiots result from such injuries.

EXPERIMENTAL RESULTS OF THE EFFECTS OF FREE BLOOD IN THE CEREBROSPINAL FLUID

Experimental work, especially by Bagley, indicates that small amounts of an animal's own blood injected either into the ventricles or subarachnoid space may produce permanent damage to the brain. The gross changes are enlargement of the ventricular cavities, and microscopically scar formation occurs in the cortex. Clinically the effects are recognized by muscular twitchings, convulsions, lethargy, loss of mental power, etc. He has shown further that if drainage is instituted and the blood is withdrawn with the cerebrospinal fluid, these changes do not occur. He maintains that the reason that the blood in the cerebrospinal fluid in brain operations does not do any damage is due to the fact that the dura is left open and it drains away. He has observed that in skull fractures with a lacerated dura the permanent effects of the hemorrhage are less damaging than when they occur with the dura intact.

TREATMENT OF INTRACRANIAL BIRTH INJURIES

The treatment for the conditions giving rise to (1) the *early signs* and (2) the *late results* of intracranial birth injury varies as do the conditions which produce the difference between the early and late signs.

Whether the obstetrician approves of doing a lumbar puncture as a routine measure in all new-born babies or not, yet it is essential to watch very closely for any sign of intracranial injury, remembering that sudden molding of the head in easy or precipitate births is just as apt to result in cerebral hemorrhage as are prolonged difficult labors.

CEREBROSPINAL FLUID PRESSURE IN INFANTS AND LUMBAR DRAINAGE

Having been led to suspect an intracranial hemorrhage, the baby's eye-grounds should be examined for evidence of retinal hemorrhage or obscuration of the discs. The next step is to determine by measurement with a spinal manometer the amount of intracranial pressure which exists. The normal for new-born babies as determined by various investigators is between 6 and 2 mm. of mercury. Some place it between 5 and 2 mm. In addition to determining the pressure (and let me emphasize that it should be measured

and not estimated—an estimate is of no value at all) the spinal puncture also gives evidence of the presence or absence of blood and the puncture serves as a means of decompression. Munro reports a case in which the baby had a pressure of 50 mm. of mercury and it required the withdrawal of 90 c.c. of bloody fluid to bring the pressure within normal limits. He has also observed that in babies who are treated in this way, of those who were discharged with a spinal fluid pressure of more than 6 mm. of mercury, 37.5 per cent died from all causes and 25 per cent from cerebral causes, whereas of those who had a pressure within normal limits only 11.4 per cent died from all causes and 5.8 per cent from cerebral causes. He also reminds us that increased cerebrospinal fluid pressure is present in all cases of depressed fracture, intracranial hemorrhage, cerebral edema, or cerebral congestion, and that intracranial hypertension in the newborn can be reduced to normal by lumbar puncture regardless of the degree.

REMOVAL OF BLOOD BY LUMBAR DRAINAGE

But, in addition to reducing the pressure to normal in order to avert or relieve immediate symptoms and avoid an early death, it is also necessary to free the cerebrospinal fluid from blood in order to prevent permanent damage to the brain and avoid the late results of intracranial birth injury. This may be and is often accomplished by lumbar drainage. The punctures should be done once, twice or even three times in twenty-four hours for the first or second day, then once in twenty-four hours for the next two or three days and then every other day until a week elapses or until the pressure is normal and the fluid is free from blood.

SUB-TEMPORAL DECOMPRESSION

In the event the hemorrhage is massive and a localized clot occurs and it can be localized a craniotomy should be done and the clot removed. If there is evidence that the blood cannot be removed by lumbar drainage and the hemorrhage is on the convexity of the brain a subtemporal decompression should be done and on both sides if necessary. If the hemorrhage is at the base a soft rubber drain may be inserted beneath the brain for the first twenty-four hours. These measures—lumbar drainage and subtemporal decompression—are valuable during the first few days of life and will often

remove the early signs of intracranial damage.

HYDROCEPHALUS

One of the earliest complications of a permanent nature to occur is hydrocephalus, either internal or external. If blood has been found early or if blood-tinged yellowish fluid is obtained after the child's head begins to show enlargement the presumption is that an external hydrocephalus is present. The best treatment, in our judgment, for *external hydrocephalus* is a subtemporal decompression in which the dura is freely incised and a tunnel made beneath the arch of the zygoma into the pterygoid fossa where the pterygoid plexus of veins is located. The fluid can then drain into this area of absorption and thus relieve the condition. In our small series of cases it has given excellent results.

The treatment for *internal hydrocephalus* is a whole subject in itself. Treatises without number appear in the literature and we shall not attempt to review them here.

Internal hydrocephalus may result from blocking of one foramen of Monro producing a unilateral condition, or both foramina may become occluded resulting in a bilateral hydrocephalus of the lateral ventricles; occlusion of the third ventricle would produce the same effect. Obstruction of the aqueduct of Sylvius results in increased pressure in the third and lateral ventricles, and the obstruction of the exit from the fourth ventricle results in an accumulation of fluid in all of the ventricles.

An accurate location of the point of obstruction can only be made by means of a ventriculogram but one can often determine by clinical signs whether the condition is limited to the cerebral ventricles or not.

In all of our cases the hydrocephalus has been limited to the cerebral ventricles and our method of treatment consists in a modification of the old Mikulicz method. We open the skull over the posterior horn of the lateral ventricle and insert a small silver tube, with perforations in its walls, into the most dependent portion of the ventricle. The tube is made into a "T" by splitting the ends of it for about one-half an inch in order that it may be anchored beneath the periosteum in such a way that the escaping fluid enters the subaponeurotic space, from which it is absorbed. The tube is inserted through the cortex of the posterior silent area so it

does not impair brain function and in two cases autopsied, eight and ten months after operation, no evidence of irritation was seen due to the presence of the tubes. The results have been all that one could hope for. Within eight weeks one of our cases which had spastic paralysis of all four limbs, trunk and neck had all signs of paralysis disappear. The child began to sit up in bed, its intelligence developed rapidly, it gained in weight and the circumference of the head decreased from 26 inches to 13½ inches during this period. It then developed pneumonia and died. We have had similar improvement in other cases but none of the others were as severe as this one. If the block is at the exit of the fourth ventricle and is due to a clot or recent scar, a suboccipital exploration is indicated.

PROPOSED OPERATION FOR INTERNAL HYDROCEPHALUS

We have done some experimental work on monkeys with the idea of applying the results in the treatment of internal hydrocephalus which is due to a block in the posterior end of the third ventricle, the aqueduct or fourth ventricle. In three monkeys we bisected the cerebellum and roof of the aqueduct up into the third ventricle. From our knowledge of the anatomy and function of the structures bisected we did not anticipate that any functional disturbance would result and we were completely justified in our expectations. At no time did the behavior or reactions of the monkeys thus operated upon differ from the controls.

We propose therefore for internal hydrocephalus due to atresia of the aqueduct, from whatever cause, to bisect the cerebellum in the midsagittal plane and extend the incision in the midline through the whole extent of the aqueduct with the idea of establishing a permanent gutter from the third ventricle to the lower end of the fourth. The continuous flow of cerebrospinal fluid prevents complete union of the bisected parts. Incidentally in doing the above operation on a dog the knife slipped and bisected the medulla through the floor of the fourth ventricle with only a momentary disturbance of the dog's vital processes.

TREATMENT OF SPASTICITIES AND EPILEPSY

The treatment of the late results of intracranial birth injury forms one of the saddest chapters of surgery. The spastic

paralyses have been treated symptomatically by muscle and tendon cutting, tendon transplanting, nerve section, and by attacks upon the sympathetic ganglia. A description of the Stoffel and Forester operations can be found in textbooks of orthopedic surgery. Hunter and Royal of Australia gave quite an impetus to the use of sympathetic nerve surgery in these cases but the results have been disappointing and afford only temporary relief.

During the past twelve months we have had seven cases of spastic paralysis and one case of diplegia with and without epilepsy in which we have removed both superior cervical sympathetic ganglia and injected the sheaths of all of the carotid arteries with 95 per cent ethyl alcohol. All of our monoplegias and hemiplegias cleared up completely and our one case of double diplegia operated only two months ago shows marked improvement, especially in the upper extremities. We ascribe our results to an increased flow of blood through the cortex due to a lessened spasticity of the cerebral arteries. Penfield and others have observed that the blood vessels in the vicinity of cortical scars are exceedingly sensitive to stimulation and readily go into a spasm.

THE OPERATION

In cases of epilepsy due to trauma an old scar from cerebral hemorrhage is often found. The treatment by craniotomy and excision of the scarred cortex by well trained neuro-surgeons has given relief in approximately fifty per cent of cases. However, functional disturbances result from the removal of the excised tissue. The cavity which remains does not close by scar formation but becomes filled with fluid and so persists.

By doing a double superior cervical sympathetic ganglionectomy in combination with a periarterial injection of the carotid arteries with alcohol we have been able to relieve, for a few months at least, more than eighty per cent of the cases of epilepsy due to trauma or intracranial birth injury. We are optimistic enough to believe that the results will be permanent and especially so when the vertebral arteries are injected and the vertebral sympathetic nerves from the stellate ganglia are sectioned.

SUMMARY

To relieve the early signs of intracranial hemorrhage drainage by lumbar puncture

should be done early in order to lower the intracranial pressure and free the cerebrospinal fluid from blood. If this fails a craniotomy should be done to drain away the bloody cerebrospinal fluid and prevent the attending complications.

To relieve the permanent damage due to intracranial hemorrhage it is recommended that: (1) For external hydrocephalus a subtemporal decompression should be done; (2) for internal hydrocephalus a modified Mikulicz drainage should be done or a bisection of the cerebellum and roof of the aqueduct; (3) for the spasticities and epilepsy a double superior cervical sympathetic ganglionectomy should be done with an alcoholic injection of all of the carotid arteries to be followed later by a double vertebral alcoholic aphaeresis and section of the vertebral sympathetic nerves.

CONCLUSION

In conclusion permit us to express the hope that we have shown that there is some hope of relief for these hopeless cases and that their greatest hope lies in the early recognition of the condition and that some hope, though more remote, is offered by neuro-surgical methods. As Holt says in closing the chapter on this subject in his book on the Diseases of Infancy and Childhood, "the hopeless outlook for such cases when not relieved justifies the taking of great risks."

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KIDNEY INFECTIONS IN PREGNANCY

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Infections of the kidney in pregnancy are directly due to the gravid state; however, pre-existing conditions often contribute to produce the urological alterations typical of pregnancy.

Determination of previously existing renal pathology must be made from the history and from a careful urological examination of the patient. Exacerbation of such a latent condition may be expected during pregnancy, because factors arising from this state are superimposed upon the original urological condition. The treatment depends on accurate diagnosis and evaluation of all factors.

Occurrence of true pyelitis of pregnancy, as well as exacerbation of kidney disease existing prior to the pregnancy, is always more frequent in multiparæ, worst at the twentieth week of pregnancy, most often on the right side, and rarely bilateral, for very definite reasons.

While the cause is definitely bacterial, the etiology is urinostatic. Intestinal stasis predisposes to colon bacillus infections; but the vesico-ureteral stasis constantly occurring in pregnancy is directly responsible. The renal intrapelvic pressure is normally 60 mg. of mercury, whereas the normal intravesical pressure is twice that, and in pregnancy many times greater. With this ureteral and bladder change, the back pressure is markedly increased.

Typical trigonal elevation with hypertrophy of Mercier's bar and elongation of

the interureteric ridge, changing the location of the orifices laterally, always occurs in pregnancy with the constant finding of residual urine and bladder stagnation. The residual urine is usually infected and contains colon bacilli or staphylococci or both.

The ureteral alterations in the orifices may result in an incompetence of the ostial valves. Hyperplasia of the fibroblastic bundles is normally found and sometimes makes the thickness of the ureter sheath greater than the caliber of the ureter itself. There is always a hypertrophy of the juxta-vesical ureter and dilatation at the level of the parametrium. From the normal engorgement of the pelvic blood vessels and angulation of the right ureter from the dextrorotation of the gravid uterus, with corresponding straightening and stretching of the left ureter, there results a disturbed peristalsis of the ureter and ureterectasis.

In the bladder, in pregnancy, the urinary

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stasis plus infection; the ureteral dilatation and often ostial incompetence; the diminished expulsive tone and extraureteral tension and pressure; with vascular engorgement—results in infection of the renal pelvis.

The increased bile salt content of the blood during pregnancy may be a constitutional factor in lowering the surface tension and reducing the ureteral peristalsis by depression of its tone. Experimentally, sodium-glycocholate has been proven to have this effect.

Diagnosis of renal infections is often delayed or not made at all. Fever, fluctuating; atypical gastric disturbances; lumbar pain and its transmission down the course of the ureter; and pus in the urine with symptoms of cystitis—are quite typical. Routine examinations of the urine of pregnant women with unexplained fever, with or without urinary disturbances, is enough to cause the suspicion of pyelitis of pregnancy.

Pyelograms made in kidney infections in pregnancy show three degrees of change in the kidney and ureter: (1) Those with ureteral and renal dilatation of the pelvis; (2) blunting of the calices (pyelectasis and so-called hydronephrosis); and (3) evidence of destruction of the renal parenchyma (pyelonephrosis or pyonephrosis).

Urinary findings of heavy albumin, good dye excretion in a function test, no increased blood nitrogen retention, diminished output of urine and tissue edema, are definite evidence of glomerulotubular inflammation of the renal parenchyma wherein the nitrogen waste of the body accounts for the decreased osmotic tension of the blood and the consequent edema. An old sclerotic process of the kidney interstitium from previous long standing inflammation, with a secondary contracted kidney, shows urinary findings of no albumin, increased fluid output, no tissue edema, and therefore a high blood nitrogen content — so-called interstitial nephritis, which is a true nephrosis. Any of these conditions may be basic with a secondary pus infection during pregnancy.

In the treatment of pyelitis of pregnancy, the viewpoint of the specialist in urology is liable to be somewhat radical in the opinion of the general practitioner or the obstetrician. It may well be when one considers that the usual expert urologist has never managed an obstetrical case throughout, es-

specially not one in the home under the ordinary financial conditions. Estimating the cost of hospitalizing a patient for treatment of the renal pelvis for the few days necessary, it will be seen to approximate the total cost for delivery of the baby. Mere mention of the hospital is frequently sufficient to decide the patient to lie in bed at home for weeks, with pain, fever, vomiting and imminent danger of miscarriage as well as danger of developmental defects in the baby from calcium waste; rather than the more rational treatment of drainage of the kidney through the ureteral catheter with the usual subsidence of all symptoms within a few days at most. The remission of the infection can usually be accomplished at home without any inconvenience to the patient, and with little more to the urologist than in the hospital. The ideal as well as the most convenient place for treatment is at the patient's home. Cystoscopy is quite practicable at home at a very moderate cost to the patient. A moderately intelligent female attendant, or the husband, is all that is necessary for the most rational program of treatment by reversal of the symptoms through overcoming the causative factors.

TREATMENT

Ordinarily, rest in bed on a back-rest; forced fluid intake; hot packs or water bag to the back; alkalinization of the urine with citrocarbonates; or acidification and methenamine intravenously; removal of intestinal stasis and foci of infection; possibly colon or staphylococcus vaccines; and regular bladder washes after the removal of the residual urine and instillation of mild antiseptics—result in a prompt subsidence of all symptoms. All of these measures should be used routinely.

Should recovery not be complete by the end of a week, more active treatment is necessary. Drainage of the renal pelvis following the insertion of a ureteral catheter through the cystoscope results in a rapid remission of fever and all symptoms and is the ideal method of treatment if the pathology present is comprehended. One renal pelvic lavage with the instillation of a few c.c. of silver nitrate 5 per cent or of S T 37 is usually sufficient. Should there be a recurrence—

Repeated lavage at regular intervals with drainage of the renal pelvis by an indwelling catheter until the temperature is normal will be necessary. When a nurse is in at-

tendance, two catheters, one into the renal pelvis and one lying in the ureter, can be left in place and lavage can be done several times a day with saline or antiseptics. At least twice daily injections into the catheter should be made. X-ray catheters do not damage the ureter in any way, and form no incrustation of urinary salts. Cases of retention catheter left in for a period of two months have been reported with no apparent damage to the ureter.

Should the above treatment not be curative, there exists a pyonephrosis or a pyelonephrosis which is much worse than the suspected pyelonephritis of pregnancy. In these cases, consultation with the obstetrician as to termination of pregnancy or operation on the kidney is indicated.

Pyelotomy or nephrotomy on a badly infected kidney, with prolonged drainage through the flank may at times be a better step than a therapeutic abortion which relieves only the pyelitis of pregnancy and after which further operative procedures may be necessary. Usually kidney operations during pregnancy or the puerperal state are tolerated better than in the non-gravid condition and the patient may then carry on to normal delivery.

Infection due to streptococci instead of the usual colon or staphylococcus, should respond promptly to treatment or immediate termination of pregnancy is indicated.

A previous nephrectomy in a pregnant woman is never in itself an indication for abortion; nor is there any special danger to becoming pregnant.

Post-partum sub-involution of the ureter may frequently occur where there has been a ureteritis in pregnancy, and since experimentally the hypodermic injection of pituitary extract has been shown to be as specific on the lower ureter as it is on the uterine musculature, regular injections in the puerperium is indicated. Careful urologic investigation is necessary in every case where all symptoms and signs have not disappeared after delivery where there has been a pyelitis of pregnancy. Stone formation in the staphylococcus infections from its ability to decompose urea may have occurred during the pregnancy and may require investigation.

Previous pyelitis with apparently no after-effects is never an indication against future pregnancies.

SUMMARY

The treatment of renal disease of pregnancy requires a fair understanding of the causative factors.

Drainage is the requisite for recovery. Recurrence is common and if ureteral catheter drainage should be unsuccessful, operative drainage is often better than abortion, spontaneous or induced.

Drainage necessary may readily be accomplished at the patient's home by cystoscopy.

After delivery urologic investigation is indicated to prevent chronic renal destruction.

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FAMOUS MEN IN MEDICAL HISTORY

AN APPRECIATION OF SIR WILLIAM OSLER

DON M. LE DUC, M.D.

(Continued from March issue)

OSLER THE PATHOLOGIST

As in the case of so many of the great clinicians who went before him, and whose lives he loved to study, the foundations of the skill and knowledge of Sir William's later life were based upon the strenuous and studious early years, spent not only at the bedside, but also in the study and demonstration of the great science of pathological anatomy. His interest in the postmortem room and his free use of the microscope are

among the most conspicuous facts in his history, revealing, as they do, the quick grasp of essentials which was the outstanding feature of his genius.

Osler's interest in pathology is perhaps best shown in an editorial by Dr. Warthin, in which he states, "My personal acquaintance with Dr. Osler began in my own pathological laboratory and museum sometime in the later nineties. He had stopped over in Ann Arbor as the guest of Dr.

George Dock, who, showing him the University, brought him finally into the crude quarters in which I was endeavoring to build up a department of pathology. My autopsy service, under 25 yearly, had in the course of several years furnished me with about two hundred museum specimens. This small collection was not passed by with hurried superiority or indifference, but was examined by him with most evident interest and sympathy. It contained some unique specimens of leukemia and pernicious anemia to which he reacted just as I saw him later react to a rare book. One of these was a preparation of hemo-lymph nodes from the prevertebral tissues of a case of pernicious anemia. These quite excited him, because he had, as early as 1885, noted the occurrence in pernicious anemia of lymph glands having 'a rich red color, on section looking more like spleen tissue than lymph gland.' He was much pleased to have this observation of his corroborated and explained by another worker, and after looking at the microscopical sections of these glands, and listening to my interpretation of them as hemal nodes, he shook hands with me warmly, saying, 'A little field well-tilled! How much more may come from it than from a large one with its surface only scratched!'

"It may easily be imagined what effect this had upon the young pathologist—what encouragement and stimulus derived from such sympathetic appreciation! The memory is indelible; the glow of the reaction persists to this day. As my knowledge of the man grew, I came to know that this was Osler—the fine and ready appreciation of the work of others, and the sympathetic expressions of appreciation. In his generation of medical men there was no other one like him in this respect. How often and to how many did he send those little notes of praise and encouragement signed 'Osler'! They must have influenced the development of American medicine to a degree that can never be fully realized. And who is there to take his place in this respect with the younger generation of American medical students!

"Osler's interest in pathology and in the collections of specimens of disease, as shown in his early days at McGill University, and in his association with that medical museum, has been written of by others. His student days were characterized by his interest in

the autopsy and the microscope; his graduating thesis was on Pathological Anatomy; and the earlier years of his professional life were occupied with the formation of the pathological collections that today constitute one of the most valued treasures of McGill Medical Museum."

To depart from Dr. Warthin, we find this collection came into being through the fact that it was natural for Sir William to set aside for preservation, as a permanent record of important facts, any remarkable material which he came across in his autopsies which illustrated points of teaching value, or which were to him of interest as a basis for intensive study. In this way he quickly assembled a collection which, while especially rich in specimens of cardiac and arterial, gastric and lung diseases, is representative also of the whole range of human morbid anatomy, as well as significant of his activity in veterinary and medico-legal medicine. Each specimen has been neatly chiselled down to show the lesion freed from encumbering details, and remains of scientific interest today, bearing silent but emphatic witness to his skill in dissection and selective faculty. All are fully described in his hospital protocols of the 787 autopsies performed by him during the nine years he was at McGill.

To return to Dr. Warthin, "In how great a degree these contributed to his later views regarding various diseases and their complications is revealed in his medical writings.

"Dr. Osler had the clearest and broadest conception of pathology as the fundamental science of medicine. He had also the museum instinct. To him the pathological specimen, properly prepared and catalogued, was a record of disease more instructive than any textbook description could possibly be. He valued rare specimens as he valued rare editions. Each had a wonderful beauty of its own—valuable in that it demonstrated some essential bit of knowledge of disease for which it should be preserved as an individual record. He had the feeling of the old-time naturalist for these specimens. He loved to look at them, comparing and contrasting, seizing upon their individual points, and correlating these with the clinical symptoms produced by them. He knew, moreover, how to describe them in such a telling way as to excite interest in the most apathetic of medical students. The pages of descriptions of the pathological specimens

catalogued by him during his Montreal years bear eloquent witness to his enthusiasm for this branch of medical teaching; and this enthusiasm of his earlier years of pathological training never left him. Indeed, it constituted one of the most important factors of his success as a teacher of internal medicine, and it gave to his textbook that individual flavor which made it unique."

Osler's "clinics" in the autopsy room were as interesting as those at the bedside. He reconstructed the history of events from the specimen and correlated it with the clinical history. There was frequent reference to cases seen at Montreal, Philadelphia, and elsewhere. The student was able to obtain a mental picture of the patient and the specimen described. Osler showed in this regard a characteristic common in British and rare in American clinicians; namely, the knowledge of specimens which illustrate a clinical problem. British clinicians are wont to refer to certain specimens in a manner similar to reference to a patient in an adjoining bed.

There was never any difficulty in having Osler present at an autopsy and almost any engagement would have to wait. He may have come as an onlooker, but very often he was taking part before he knew it. If the pathologist was a bit slow he usually took hold of the work himself. His assistants were always watching to turn up his sleeves and cuffs, as he rarely thought of them, and it was difficult to persuade him to put on rubber gloves. Nearly always he handled the specimens himself, and was not content at merely looking at them. Physicians commented on the fact that they were unable to get Dr. Osler to come for a consultation with a large fee, but that he would always come to attend an autopsy in which he was interested.

OSLER THE CLINICIAN

Sir William was one of the most important links in the evolution of clinical knowledge. He represented not only the older type of clinician who was above all a great observer, but also the newer generation whose advances were, in the main, noteworthy because of laboratory research.

Osler differed from almost all clinical teachers of his time in the fact that he did not dictate or prescribe any of the polypharmaceutical prescriptions then in vogue. Largely for this reason he was spoken of

as a therapeutic nihilist, although he expressed the soundest view on the use and study of drugs in his text. He thought one could get along quite satisfactorily with six or eight drugs. One of his favorite prescriptions was "time in divided doses." He joyously quoted the remarks of a colleague that "Osler's therapy consisted of Hope and nux vomica."

One of his favorite axioms was that in the last hundred years no one had done the good in the practice of medicine that had been done by Hahnemann. This, he would explain, was not due to any scientific theory or important truth that Hahnemann had advanced, but by the application of his methods it had been demonstrated to the medical profession that the natural tendency of disease was toward recovery, and that the best results were usually achieved if the patient were decently cared for and properly nursed. One of the most forceful lessons in treatment ever seen was when Osler took charge of a section of the hospital at Montreal and applied the above principles. All unnecessary semblances of sickness and treatment were removed. Nursing was made excellent, the environment cheerful and little medicine given. The results were astounding.

A patient writes: "To have been a patient of Sir William Osler in your youth was to have obtained an almost impossible ideal of what a physician could be. . . . As he passed about, gallant and debonair with a whimsical wit that left the air sweet and gay, with an epigram here and a paradox there, tickling the ribs of his colleagues, none felt him frivolous. The deep, sad eyes of his soul watched a little cynically the light humor of his mind. It was not necessary for him to be sensitive to a social atmosphere, because he always made his own atmosphere. In a room full of discordant elements he entered and saw only his patient and only his patient's greatest need, and instantly the atmosphere was charged with kindly vitality, every one felt that the situation was under control, and all were attention. The moment Sir William gave you was yours. It was hardly ever more than a moment, but there was curiously, no abrupt beginning or end to it."

Osler never forgot the patient in his interest in the malady. There was a tradition among the clinical clerks that "if you want

to see the chief at his best, watch him as he passes the bedside of some poor old soul with a chronic or hopeless malady—they always get his best."

OSLER THE TEACHER

Dr. Osler had decided ideas as to the proper way to teach medicine, and these were not always in accord with prevailing methods. His ideas seem to have been influenced largely by the teachings of Louis, of whom and of whose methods of work he was an ardent admirer. He subscribed most heartily to the positive or modern method of study of medicine by observation and analysis as distinguished from theory and dogma. He quotes with entire approval Louis' words:

"The edifice of medicine reposes on facts, and truths cannot be elicited except from those facts which have been well and completely observed. To get an accurate knowledge of any disease, it is necessary to study a large series of cases, and to go into all particulars; the conditions under which it is met, the subject specially liable, the various symptoms, the pathologic changes and the effect of drugs."

Listen to Osler's own words: "In what may be called the natural method of teaching, the student begins with the patient, continues with the patient, and ends his studies with the patient, using books and lectures as tools, as means to an end. The student starts, in fact, as a practitioner, as an observer of disordered machines, with the structure and orderly functions of which he is perfectly familiar. Teach him to observe; give him plenty of facts to be observed, and the lessons will come out of the facts themselves. For the junior student in medicine and surgery, it is a safe rule to have no teaching without a patient for a text, and the best teaching is that taught by the patient himself. The whole art of medicine is an observation, as the old motto goes, but to educate the eye to see, the ear to hear, and the finger to feel, takes time, and to make a beginning, to start a man on the right path, is all we can do. We expect too much of the student and we try to teach him too much. Give him good methods and a proper point of view, and all other things will be added as experience grows."

In an introductory address at the opening session of the McGill Medical School in 1877 Osler said, "Let me add a word of ad-

vice on the method of studying. The secret of successful working lies in the systematic arrangement of what you have to do, and in the methodical performance of it." It is seen that this principle of an orderly system for the study of medicine was in his mind at the beginning of his career, and every year grew stronger until it dominated his work, and culminated in his *Practice of Medicine*, the greatest instrument of our time for the reduction of the study of this Art to a logical scientific basis.

Osler did more than any other man of his day to teach all men that the study and cure of disease is a pursuit which a properly trained mind can follow with as keen an enjoyment and uplift as an artist can study great pictures or a musician can hear great masters. Before Osler came, the student was prone to regard cancer as a cancer; when Osler left, the student studied cancer as an aggregation of cells possessing untold mysteries to be unravelled.

Chief among Osler's professional attainments was an intimate knowledge of his subject—not a mere superficial acquaintance with its scientific side, but a penetrating understanding of it and of each and every collateral branch. With this masterful grasp of his subject he combined a thoroughness in the investigation and consideration of cases. With this thoroughness went a marvelous capacity for exact observation and a memory power unusual to a degree, capable of reclaiming alike from experience and from literature material that would throw new light on the subject at hand.

Osler's clinical lectures were not really lectures on one given subject, but a demonstration of individual signs and symptoms present in the patient and important in the disease. In ward class, he studied the students and used his impish tricks to test them. For example, he was prone to ask a student whether he heard a certain murmur and on being answered "Yes," as he usually was, would say, "But I do not," and smile quizzically. He was a tremendous intellectual stimulant and made the student perceive what he saw and get pleasure in perceiving.

The ability to transform crude, unthinking youths into serious students was not the result of mere chance. Osler created students because he himself was a student. Students were taught by him to observe, record and think.

Osler's interest in his students and assist-

ants was deep and genuine. In addition to the teas, dinners and other social events to which many were invited, he, for several years, met at his home each Saturday evening from 8 until 10:30 the senior medical group, and discussed their ward patients, books and current and past medical literature with them. In this way every member of the class came in direct personal contact with him.

Osler taught medical men to love the literature of the profession as well as the highest type of general literature, and thus taught them culture. His love of the Fathers of Medicine served to teach them that they should learn what those before had done before boasting of the attainments of the present.

Like all great teachers, Osler possessed the ability to make his students independent in their thought and action, seeking not to make them mere imitations of himself, patterned according to his own mould; rather did he aim to have them develop that which was distinctive in themselves, inspiring them through his own aspirations and strivings to attain new heights of knowledge and power. His talent was not that which can merely copy, imitate, and reproduce the work of predecessors, rather was it that form of genius which penetrates, interprets and reveals.

Sir Clifford Albutt tells us that Osler had that wonderful power only possessed by a few great teachers of "inseminating other minds." Wherever he went the wheels began to go 'round, things began to be done, and all for the good of the profession and humanity.

Osler disliked examining, and held rather a poor opinion of examinations, for qualities in a man which they fail to reveal were such as appealed to him, but when examining a candidate he always treated him as a friendly equal and put him at his ease.

Dr. Arnold Klebs, in Dr. Garrison's history, gives us the following homely but vivid pen-picture of Dr. Osler while teaching at Hopkins: "Never can one forget the scenes in the outpatient department, where he stood surrounded by his boys, helping them as a friend in their struggles with some difficult case. He would go to one, put his arm around his shoulder and then begin a friendly inquiry, interspersed with humorous remarks and allusions. . . . Urging, encouraging, inspiring, so we saw him, always

exact, dogmatic never, and when the humorous, friendly fire kindled in his eyes, we could not help but love him, and with him the task we had chosen for our life work."

OSLER THE MAN

Osler was a rather small man, with a dark olive complexion, black eyes, black hair, and high intellectual forehead, faultlessly dressed in a dark frock coat, light trousers, a standing collar with flaring points. He walked with a quick, active step, not uncommon with those of alert minds and taut muscles.

The dominant note in the harmony of his character was his great love of humanity, his abiding interest in, and sympathy with, his fellow men. This was manifest not only in his life, but in everything he ever said or wrote. Dr. Maude Abbott describes this attitude in other words when she speaks of his "invincible optimism, his belief in the inherent greatness of man." It was his settled policy never to speak ill of anyone, but to always discover the good, and thus avoid hostility by kindly coöperation.

Above all Osler was a scholar. In early life he had given little time to the classics, but few men have lived more completely in the atmosphere of great minds of the past. An insatiate reader, his memory was remarkable and the timely and happy quotation was always on his lips. Nightly for half an hour he communed with that which was best in literature. He loved books, and early laid the foundation of that great collection which was his at the time of his death, a collection, at the outset, of the first editions and early publications of the masters of medicine, and later, treasures in all branches of science and humanities. At the time of his death he had accomplished the impossible—Osler, doctor of medicine and practitioner of his art, was president of the British Classical Association.

We learn something of his philosophy from the following: "As to your method of work, I have a single bit of advice which I give with the earnest conviction of its paramount influence in any success which may have attended my efforts in life. Take no thought for the morrow; live neither in the past nor in the future, but let each day's work absorb your entire energies and satisfy your widest ambitions. . . . While medicine is to be your vocation or calling, see to it that you have an avocation, some intellectual

pastime, which may serve to keep you in touch with the world of art, of science, or of letters. Begin at once the cultivation of some interest other than the purely professional. The difficulty is in a selection, and the choice will be different according to your tastes and training; but, no matter what it is, have some outside hobby. For the hard working medical student, it is perhaps easiest to keep up an interest in literature. Let each subject in your year's work have a corresponding outside author. When tired of anatomy, refresh your mind with Oliver Wendell Holmes; after a worrying subject in physiology, turn to the great idealists, to Shelley or Keats, for consolation; when chemistry distresses your soul, seek peace in the great pacifier, Shakespeare; when the complications of pharmacology are unbearable, ten minutes with Montaigne will lighten your burden. To the writings of one old physician I can urge your closest attention. There have been, and, happily, there are still, in our ranks notable illustrations of the intimate relations between medicine and literature; but in the group of literary physicians, Sir Thomas Browne stands preëminent. The 'Religio Medici,' one of the great English classics, should be in the hands, the heart, too, of every medical student. As I am on the confessional today, I may tell you that no book has had so enduring an influence on my life. . . . It was one of the strong influences which turned my thoughts toward medicine as a profession, and my most treasured copy, the second book I ever bought, has been a constant companion for thirty-one years."

In everything that Sir William wrote that was not of a strictly scientific character, there is evident the fruits of his wide reading and familiarity with the classic literature of all races and ages. We are familiar with Osler's list of bedside books, suggesting, long before Dr. Eliot's "Fifteen Minutes a Day" plan for mental improvement, that keeping this little library at the bedside and dipping into it morning and evening would yield surprising results. Although the writings of Osler abound with quotations from, or references to, all of those mentioned in his bedside list, as well as many others of the classics of literature, yet his literary style is peculiarly his own and his power of quotation was unlimited and inimitable.

Osler's personality was unquestionably an important factor in his useful life. His

bright face, quick intuition, and, above all, his kind and courteous manner, inspired confidence and affection in all. He always saw the ludicrous side of things. Many a time the children would rush out to him as he walked down the street and bring him their sick dolls to mend. He was never in too much of a hurry to stop and have a kind word before dancing away. Even then they would follow as fast as their little legs would permit. He would turn and throw them kisses with both hands.

While a student in Montreal, as in every other period of his life, Osler succeeded in establishing the strongest friendships with those about him through his genial companionability, and his wonderful faculty for hard work and constant acquisition of knowledge.

He was always the friend of the student and of the young practitioner. He says, "Many of you have been influenced in your choice of a profession by the example and friendship for the old family doctor or of some country practitioner in whom you have recognized the highest type of mankind and whose unique position in the community has filled you with laudable ambition. You will do well to make such a man your example, and I would urge you to start with no higher ambition than to join the noble band of general practitioners. They form the very sinews of the profession—generous-hearted men, with well-balanced, cool heads, not scientific always, but learned in the wisdom of the sick room, if not in the laboratories." Osler advised his young friends as to lines of work and suggested ways and methods. He was always personally interested. He infected them with his own enthusiasm and love for science, for he was a most inspiring person, and his energy untiring. He belonged to that small class who do immense good in the world by their personality alone.

Professor Welch developed a thought which will undoubtedly be a most viable line of approach for those who, in the future, may attempt to estimate the position of Osler in modern medicine. Dr. Welch said, in brief, that Osler was, beyond peradventure, the greatest physician of his time, but that his fame is not the effect of any isolated quality or achievement, but the resultant of a remarkable complex—eminence in bedside medicine, in original contributions to scientific medicine, in medical history, as an originator of many pithy apho-

risms and novel views of things, as a publicist, and as a friend and mentor to patients, pupils, and colleagues alike.

In conclusion, I quote, "To no member of its body today does the profession of medicine owe so great a debt—not that humanity is not also deeply in his debt. Jenner or Pasteur has his first mortgage on mankind, his second on men of medicine. With Osler the order is reversed. He has made no profound or fundamental discovery, but no one of our day has, in his life, teaching, and example, so radiated, far and near, an inspiration to his fellow physicians. Wide and accurate learning; enthusiasm in the pursuit of truth; a character in which elevation and charm are singularly marked and rarely blended; a personality which wins perforce the love, admiration, and respect of all who come within his influence; a kindly eye which sees the good in every man and thus stimulates him to better it—these are the main threads woven into the fabric of his beautiful life. Who that meets him, who that reads his essays and addresses, in particular, does not come forth or arise with renewed strength and hope to the service of his fellow man, a better soldier, in the medical corps of the Divine army?"

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ERRATIC ENGLISH

John o' London's Weekly

We'll begin with a box, and the plural is boxes,
But the plural of ox should be oxen, not oxes.
Then one fowl is a goose, but two are called geese,
Yet the plural of mouse should never be meese.
You may find a lone mouse or a whole set of mice,
But the plural of house is houses, not hice.
If the plural of man is always called men,
Why shouldn't the plural of pan be called pen?
If I speak of a foot and you show me your feet,
And I give you a boot—would a pair be called beet?
If one is a tooth, and a whole set are teeth,
Why should not the plural of both be called beeth?
Then one may be that and three would be those,
Yet hat in the plural would never be hose,
And the plural of cat is cats, and not cose.
We speak of a brother, and also of brethren,
But tho' we say mother, we never say methren.
Then the masculine pronouns are he, his and him,
But imagine the feminine, she, shis and shim,
So English, I fancy, you all will agree,
Is the funniest language you ever did see.

TUBERCULOSIS ABSTRACTS*

Adolescence is a period of strain. Youngsters who have, during the earlier years of childhood, been massively infected with tubercle bacilli are likely during the teen age period to develop the adult type of tuberculosis. It is during high school years that the destiny of many of these children is decided. This is reflected in the steep rise in the death rate curve during the late teens and early twenties. Walter L. Rathbun has, since 1923, made a systematic search for early tuberculosis, regardless of symptoms, by means of the tuberculin test and the X-ray. He has recently completed the task of examining practically every high school pupil in Chautauqua County, New York; namely, 7,171 children. His experiences are recorded in a special publication, from which these abstracts are derived.

TUBERCULOSIS AMONG HIGH SCHOOL STUDENTS

Examinations of school children for early tuberculosis began in Chautauqua County, New York, in 1923 by sending to local clinic centers (a) pupils physically below par, (b) those who had symptoms referable to tuberculosis and (c) those who have been exposed to the disease. The results of the first year's effort were enlightening, but since facilities were limited, it was decided the next year to examine only the high school groups because these children leave school first. Each high school student was given a chest examination without reference to family history, height-weight ratio, or symptoms. The results justified the procedure as many cases of tuberculosis were found among those in whom it was least suspected and who were apparently perfectly healthy.

Of the students so examined, three groups were then X-rayed: (a) those with suggestive signs of pulmonary tuberculosis; (b) those in actual contact with a case of tuberculosis; (c) those with history of previous or present symptoms referable to tuberculosis. All such children were transported to Newton Memorial Hospital, where they were X-rayed. This procedure continued during 1924 and 1925, when the plan was broadened by carrying the diagnostic work directly into the schools.

EXAMINATIONS MADE IN SCHOOLS

The Chautauqua County Tuberculosis Association furnished funds to purchase a portable apparatus and X-ray films which made it possible to do the work in the school buildings. Incidentally, while it is true that the portable X-ray machine has its shortcomings, it is capable when properly handled of revealing lesions of the childhood and the adult type. The few cases in which more detail is needed may be X-rayed with a high-powered machine. The utility of the portable apparatus is a distinct advantage, and having the examinations made in the school arouses interest among school people. Stereoscopic sets of pictures were made routinely.

In 1926, the mode of procedure was again modified. Students were taken from the study halls and X-rayed, and only those with definite or suspicious signs were given a physical examination. This speeded up the work and also increased the percentage of positive cases. The tuberculin test was not insisted upon as a routine measure at that time because public opinion was not favorable to its use whereas X-ray examinations were heartily approved.

*Reprinted from *Tuberculosis Abstracts*, a review for physicians issued monthly by the National Tuberculosis Association, April, 1931.

In 1927, the intracutaneous tuberculin test was introduced as the first procedure in diagnosis. A specially trained nurse made the test and read the reaction, thus saving valuable time of the physician. It was necessary to secure the consent of parents to make the test; hence, the percentage tested was reduced to about 50 per cent. Positive reactors only were X-rayed.

INTIMATE CONTACT IMPORTANT FACTOR

These studies indicated that tuberculous disease of the lungs and tracheobronchial lymph nodes results from prolonged and intimate, rather than casual, exposure to tubercle bacilli. Intimate exposure most commonly takes place in the home. It was found that the percentage of positive reactors was greater among children living in the city of Jamestown (44 per cent) than among similar groups in the villages (25 per cent) but that the incidence of tuberculous disease of the childhood type was about the same in rural and urban areas. Apparently, while casual contact (which is more common in cities) may be the starting point of an infection as revealed by the tuberculin test, it is incapable of causing demonstrable disease in most cases. Intimate contact with a sputum positive case of pulmonary tuberculosis is the usual cause of the disease. In 54 per cent of the families of tuberculous children, a parent had either died of the disease or had pulmonary tuberculosis at the time. In 17 per cent of the families, there was a parent with suspicious signs of tuberculosis. In some cases, the "spreaders" were older siblings, in one, a nurse-maid, and in another, a boarder.

RESULTS OF STUDY

During the past seven years, 30,000 pupils, 7171 of whom were of high school age, have been examined, with the following results:

	Number	Per cent
Negative to tuberculin test.....	570	7.9
Negative on X-ray.....	5676	79.2
Children requiring observation.....	538	7.5
Childhood type tuberculosis.....	250	3.5
Suspect adult type tuberculosis.....	50	.7
Adult type tuberculosis.....	60	.84
Miscellaneous	27	.36
	<hr/> 7171	<hr/> 100.

Cases of childhood tuberculosis were 15 per cent higher for females than for males, while the morbidity for the adult type was 43 per cent higher among females than among males.

Many of the arrested cases continued school work but were given eight week's treatment in a high school health camp located on the grounds of the hospital. During the past two years, a high school has been conducted for students under treatment in the hospital. Local school authorities are well satisfied with the experiment. For ambulatory cases and some bed cases, school work is the most profitable kind of occupational therapy.

PROTECTING THE STUDENTS' HEALTH

The tendency in modern schools is to push the students to the limit of their capacities. Healthy children can stand the pace, but not those who are below par physically. Therefore, those with physical disabilities, real or potential, must be searched for and protected from overwork. Similarly, sports and competitive athletics must be curtailed for the physically handicapped. Rough handling and excitement are heavy drains on the body reserve and frequently precipitate a breakdown. School authorities in Chautauqua County co-operated admirably in protecting those who needed protection.

The public schools are logical centers for the dis-

semination of medical knowledge about tuberculosis, just as they serve as convenient units for discovering cases. Every student should be examined before graduating and certainly before working papers are granted.

Of course, no child with positive sputum should be allowed to attend school lest he infect his fellows.

"Every available resource that can be spared should be devoted to the public school field, for in the control of tuberculosis our hope of success in the years to come rests largely upon the care of the youth of today."—*Health in High Schools*, Walter L. Rathbun, Nat'l Tuberc. Ass'n.

PRINCIPLES OF PROGNOSIS IN CANCER

WILLIAM CARPENTER MACCARTY, Rochester, Minn. (*Journal A. M. A.*, Jan. 3, 1931), states that there are at least fifteen factors governing prognosis in cancer: (1) The presence or absence of glandular involvement and distant metastasis. (2) Fixation of growth. (3) Location. (4 and 5) Renal and cardiac efficiency. (6) Anemia. (7) Size of growth. (8) Age. (9) Direction of growth. (10) Loss of weight. (11, 12, 13 and 14) Cellular differentiation, lymphocytic infiltration, fibrosis and hyalinization. (15) Duration of disease. Signs and symptoms in cancer have to do with size, anatomic location, mechanical obstruction and hemorrhage. Even pain is usually insignificant unless associated with mechanical obstruction. None of these are diagnostic of cancer or even prognostic if therapy can be instituted. Many benign conditions present such signs and symptoms and may have been present long before cancer has arisen. Any system of microscopic grading of cancer should not alone be of accurate clinical value without taking many other factors into consideration. Furthermore, any system which merely states that a certain percentage of patients with certain grades live a certain length of time does not necessarily furnish data for any specific case. In other words, there is no criterion by which one can state that a given case belongs in the favorable or unfavorable percentage. Moreover, the wise and successful practitioner of the art of medicine will certainly take all possible factors into consideration in making a clinical prognosis. These practical clinical generalizations should not inhibit or prohibit pure scientific studies of possible factors which may or may not be indexes of behavior rather than prognosis in cancer. Perhaps these indexes might be of clinical value in the future, but at present all grading of cancers should be considered in the investigative or experimental stage.

ADENOCARCINOMA OF THE HEAD OF THE PANCREAS

ELMER HESS, Erie, Pa. (*Journal A. M. A.*, Jan. 3, 1931), reports the case of a woman who noticed a tumor mass in the right side of the abdomen, which was freely movable. A competent man, head of a prominent diagnostic clinic, reported after a complete gastro-intestinal study that the tumor, which apparently was fixed to the lower pole of a freely movable right kidney, was probably a hypernephroma. Several cystoscopic studies were made, with the final preoperative diagnosis calcified cyst of the lower pole of the right ectopic kidney. At operation the kidney was found to be perfectly normal, although freely movable. The tumor mass, which was below the pelvic brim, was easily delivered into the loin incision and easily removed. Death occurred forty-eight hours later. Observations at autopsy revealed that an adenocarcinoma, involving the head of the pancreas, had been removed.

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APRIL, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

PRIVILEGED COMMUNICATIONS

Many states have enacted statutes forbidding the disclosure in evidence, against the will of the patient, of information acquired by physicians in their professional capacity. These statutes have been enacted on the ground of public policy for the purpose of facilitating and making safe, full and confidential disclosure by patient to physician of all facts, circumstances, and symptoms, untrammeled by apprehension of their subsequent enforced disclosure and publication on the witness stand, to the end that the physician may form a correct opinion, and

be enabled safely and efficaciously to treat his patients.*

Closely akin to the subject of this paragraph is the matter of giving out any information which a physician receives in the process of making a physical or other kind of examination of his patient. Such information is best treated as confidential. This also refers to the matter of handing out roentgenograms or copies as well as original hospital records or copies of the same to third parties. The ownership of roentgenograms has not been legally established to date. There is a possibility of a decision by the supreme court of Michigan in the near future which will decide their ownership. In the meantime, quoting from a communication by Dr. William C. Woodward† of the American Medical Association: "Neither a railroad nor an insurance company has any right to inspect the records of a physician or a hospital relating to patients. If a railroad company or insurance company desires to inspect the records of a patient including roentgenograms or to obtain copies of records of patients including roentgenograms it should be required to produce authority from that patient to do so, or if the patient is a minor or under guardianship, from the parent or guardian." Dr. Woodward advises the responsible officer of a hospital if in doubt about the propriety of giving out copies of a patient's record to resort to the safest plan, namely to deliver the copy of the record to the patient himself or to the guardian as the case may be. In other words a physician or hospital should not part with any such confidential information without the authority of the patient in writing.

In view of possible litigation it is well that the doctor be thoroughly informed as to his rights and privileges under the law. In making out claims for insurance companies, questions are frequently asked by the insurance company, to supply the answer to which would lay the physician liable. He will do well to safeguard himself in the matter of answering these questions. This may be done by insisting on the patient's or guardian's permission in writing if the patient be a minor or a ward.

*Medical Men and the Law. Page 289. Culbertson.

†These extracts are made from a letter by Dr. Woodward which appeared in the February, 1931, number of the Wisconsin Medical Journal.

OCCUPATIONAL DISEASES

The governor's message emphasized the desirability of including occupational diseases and morbid conditions arising out of occupation among those resulting from accident which are taken care of under the workingmen's compensation. Desirable as this might appear to be from the viewpoint of the workingman, the complications are far reaching. Its adoption might easily work both for and against him: for him, inasmuch as it would afford financial relief for a larger range of disabilities than now covered by the act; against him, since it would lead to greater discrimination on the part of the employer as to whom he should hire. Even as the situation stands at present many industries subject the prospective employe to an examination for the ascertaining of the grosser physical defects. The inclusion of occupational conditions (we will not use the term *disease*, inasmuch as the abnormality may not have progressed far enough to present demonstrable pathology) will tend to make the employer still more cautious. The tendency will be to take the working classes entirely out of the care of the private practising physician as the present workingmen's compensation law has resulted in a specialized branch of surgery—accident or industrial surgery. It will give rise to a specialty in which the neurologist may become an industrial neurologist, inasmuch as occupational neuroses will occupy a position near the center of the stage.

The psychology of accident neuroses calls for serious study. In our advocacy of universal personal liability insurance for the drivers of automobiles, we were confronted by insurance companies with the experience of Massachusetts, where a compulsory personal liability law has been in force for some time. In Massachusetts it is said suits against insured drivers for minor injuries are common. Dr. Max Eyrich, a German psychiatrist, observes that the economic position of the average person is more or less insecure, and after an accident it is not so much the threat of personal injury as the possibility of *economic* disability that produces anxiety as regards the future and therefore induces him to seek economic relief by litigation for damages.

Many conditions coming under the heading of traumatic neurasthenia arise when financial responsibility for accidents can be

shifted to someone else. They seldom occur when the sufferer must shoulder the burden himself. For instance, traumatic neurasthenia seldom follows accidents on the golf links or in the gymnasium. It would seem that to relegate the condition commonly known as *traumatic neurosis* from the compensative field would eventuate in doing away with mental deterioration traceable to comparatively trivial accidents. Anyone who gives it a thought must realize that in the matter of occupational diseases we are at once confronted with a condition that is too complicated to admit of a dogmatic stand. There are certain conditions such as lead poisoning and gas poisoning arising out of one's connection with industry that would seem to be as deserving of compensation under some sort of workingmen's compensation law as a broken arm; yet who would deny that an injury to the nervous system resulting from working at concert pitch over a long period surrounded by vibration and noise, is not also as much entitled to come under the heading of occupational disease as those conditions which admit of visual diagnosis? Again, so-called accident neuroses may be exacerbations of previously existing conditions, for they may be the development of an unchecked hysterical symptom that has become a sort of severe anxiety state.

This is not written in a spirit of adverse criticism of the proposal to place occupational diseases in the same category as injuries received at work. It is, however, the part of wisdom to consider carefully all possible contingencies that may arise.

HEPATO-LIENOGRAPHY

What does it mean? While roentgenology is one of the most recent of the specialties, its progress during its thirty-six years of existence has been marked. At first a method of examining broken bones and dislocations, it has become an important factor in the diagnosis of almost every internal condition in which observation or inspection is a factor. Hollow viscera were early shown up by the contrast or opaque meal. Then came the employment of air or gas to bring into relief the solid viscera, and with it we have the terms ventriculogram and pneumoperitoneum. Later we have the employment of dyes, so that cholecystography and excretion urography are

more or less common diagnostic procedures in the X-ray laboratory.

By means of the Potter-Buckey diaphragm the roentgenologist has been able to show the contour, position and size of such organs as the liver and spleen. A German worker, P. Radt, has demonstrated a method recently for the greater definition of these viscera. The Radt method is based upon the fact that the reticulo-endothelial system of the spleen and the Kupffer cells of the liver possess the property of taking up certain foreign colloids in a selective way. Radt used at first a substance known as tordiol, a thorium-dioxide, and later a preparation in which it is combined with a carbohydrate. This substance has the advantage of stability since it is not precipitated by body fluids. The diagnostic possibilities are due to the fact that the preparation is radiopaque. Following up his experimental results on animals, Radt made intravenous injections with twenty patients from which he reported no serious results beyond slight malaise which passed off after a few hours.

The X-ray findings by Radt in his studies which are described under the new terminology, hepato-lienography, are summarized as follows: clear shadows of both liver and spleen are shown. Indefinite shadows result in cases where the normal structure of either of these organs is changed by disease. In cirrhosis of the liver accompanied by excessive fibrous change the thorium compound is not taken up. Metastases in the liver are manifest by clear spots. So far as the spleen is concerned the diagnostic use of thorium appears to be confined to outlining the shape and determining the size rather than throwing light on the internal structure.

AN IMPORTANT WARNING

A letter authorized by the chairman of the medico-legal committee has been mailed to each member of the Michigan State Medical Society advising the routine use of the X-rays in all cases of plain fracture as well as suspected bone injury. All so-called "sprains" should be examined routinely by the X-rays. Often the X-ray examination is dispensed with through the desire to save the patient what might seem an unnecessary expense. The patient, however, never feels so charitable towards his physician in the

case of an unsatisfactory result. No doctor can afford to omit this means of diagnosing bone injuries. Not only does the X-ray examination facilitate more intelligent treatment, but it is, besides, a protection to the physician. The roentgenologist, who confines his time and attention to X-ray diagnosis, preserves the films for ready reference; he makes a report on the condition found, which is given the referring doctor and a copy filed in the office of the X-ray consultant to be produced, giving all details when called for. Such records are valuable in the case of dissatisfaction on the part of the patient. The advice of the roentgenologist as a consultant is also invaluable to both physician and patient.

For his own benefit each member should read carefully Dr. Tibbals' letter and act according to his advice, should occasion arise. As chairman of the medico-legal committee he knows whereof he writes. Competent X-ray specialists are within reach of almost every portion of the State; and it is only those physicians practising in a remote locality, where the patient may be so seriously injured as not to permit of his removal to a laboratory, who might be excused from making use of this universally recognized diagnostic means.

DR. EWING ON CANCER

The 1931 Beaumont Foundation Lectures were held as announced, Feb. 23rd and 24th in the auditorium of the Wayne County Medical Society, Detroit. The lecturer, Dr. James Ewing, Professor of Pathology of Cornell University, discussed the subjects of Cause, Diagnosis and Treatment of Cancer. The audience packed the hall, which accommodates somewhat less than one thousand persons. This fact is mentioned to show the eagerness with which the profession strive to obtain the latest knowledge on this subject. There were also noted many of our members from throughout the State. This is as it should be, as the idea of the Beaumont Foundation is the greatest good to the greatest number. It is needless to say the quality of the series was equal to that of the lectures of former years. This is the tenth annual series.

These three lectures will be published in book form by the Williams and Wilkins Company of Baltimore, who have the contract for publication. They constitute a syn-

thesis of the knowledge of the subject which has been made probably for the first time. We make this statement with full knowledge of the fact that the literature on malignant growths is very extensive and that there are voluminous works on the subject. The present volume, however, when it appears, will be in the nature of a monograph, a small book presenting the result of the professional life-long studies of a master. Dr. Ewing will retire shortly, after a long and brilliant career as Pathologist of Cornell University, during which period his service as Pathologist has been fruitful in discovery as well as the examination and sifting of knowledge concerning malignant disease.

We shall not attempt to report, nor to summarize even, these three brilliant lectures. They are such an organic whole that no reporting less than verbatim could do them justice. We will mention one thing only, and that is the fact that the speaker urged a fuller and more complete study of the cancer situation by the physician in general practice, who invariably sees such cases first. For this, if for no other reason, the shortly anticipated volume should have a wide circulation. It is not in any particular sense a specialist book.

POST-GRADUATE MEDICINE

This is a perennial, a permanent (why not?) subject of interest to the medical profession. The attendance at medical meetings is an indication of the eagerness of the profession to learn, when there is a speaker with a message. In spite of the fact that medicine and the medical profession have been under fire in the lay magazines, no other profession as a whole has done so much towards self-improvement, a fact which a few of the better class of laymen acknowledge. (See first page of the cover of this number of this Journal.) From the very nature of medicine it calls for more constant study and sifting, eliminating and evaluating of data than any other. Law is concerned largely with slowly established precedent; theology has always been conservative and in some cases reactionary; great advance has been made in the physical and chemical sciences, including engineering; but these proceed for the most part along mathematical lines. Medicine will never be wholly scientific. It will never yield to

measurement no matter how closely it may approximate accuracy. There will always be the human, the personal, element. To speak of medicine as both art and science has become somewhat hackneyed. The art of medicine as we understand it is concerned with the amenity which goes to secure the good will and confidence of the patient; it is a sort of practical psychology and in many instances its importance cannot be overestimated. It is only when we have this, combined with the scientific factor, that we have the highly efficient physician; without it we have the charlatan. The so-called art of medicine does not well lend itself to pedagogical methods. The clinical and laboratory methods, however, were never more efficiently taught than they are today.

Those who may spend a year or more in post-graduate medical study are fortunate (we use the term *medical* to include surgery and the medical and surgical specialties). Many, however, cannot, for reasons best known to themselves, spend so much time on it. For them the medical journal and the short term intensive course concentrating at a single subject or even a single phase of the subject is a very desirable alternative. This opportunity, as we have announced from time to time, is being given at the University Hospital by the Department of Post-Graduate Medicine. Courses are being arranged for in Detroit under the Department of Post-Graduate Medicine of the University of Michigan and splendid opportunity has been afforded at the Herman Kiefer Hospital, Detroit, for the intensive study of infectious diseases.

FIRST AID *vs.* PRACTICE OF MEDICINE

In February, the Board of Registration received a general complaint that first aid men and nurses were practicing medicine in many industrial plants. The complaint was acknowledged and a partial investigation was made.

It was found that industrial plants had one or more company surgeons. In some of the larger factories a full time surgeon is on constant duty and attends every injury or acute illness. In many other factories only nurses or first aid men were on constant duty and the company surgeon visited the plant but once a day. In these plants it was

found that first aid men or nurses removed foreign bodies, dressed and treated injuries, sutured wounds and prescribed medicines.

In consequence of these findings a general letter was sent to some of the larger factories to ascertain where first aid ended and the practice of medicine and surgery began. It was stated that first aid consisted of the application of a sterile dressing to an injured part, the arresting of hemorrhage, the immobilization of fractures and the administration of a safe stimulant. The first aid ceases. First aid does not include cleansing of the wound, application of antisepsics, ligation of vessels, the suture of wounds, removal of foreign bodies, or the prescribing of drugs. That constitutes medical and surgical practice and can only be done by a licensed physician.

It was pointed out that the apparently simple cut or bruise, the puncture made by a sliver or nail was potent to cause the most virulent infection. It was also stated that after the first aid care the injured must be seen by a physician and that he should be sent or taken to a physician if one was not on full time duty in the plant.

It is unfortunate that industrial plants have been encouraged to employ nurses and first aid men to care for injured employees. It is regrettable that company surgeons have condoned and frequently established this plan of treating injuries. Some company surgeons go so far as to send nurses or first aid men to treat injured employees in their homes.

These practices are open violations of the medical practice law. When complaints are made the Board of Registration has no alternative than to advise of the violation and give warning that to continue such practices lays one liable to the penalty of the law. It is hoped that company and industrial surgeons will cause a cessation of treatment by unlicensed individuals. First aid has a definite limitation.

THE STIGMA OF CHARITY

(The Detroit Free Press)

A philanthropist in Texas closed his headline weeks ago because its patrons came to it in automobiles and he concluded that if they could pay for gasoline they could pay for bread. The overseer of the poor in a New Jersey township more recently complained that he is hindered in relieving acute distress, by families which have been on the town from five to fourteen years, who come in their cars for groceries and then turn up their noses at

the bread he issues and throw it on the pavement. "They haven't asked me for gasoline yet," he added, "but I wouldn't be surprised if they did."

They have asked for it in Toledo. They have gotten it in Wyandotte. The mayor of the latter city told its council this week that, with the welfare fund already \$16,000 overdrawn and likely to run \$75,000 in the red, some of the recipients of the municipal dole drive up for it in "expensive sedans" and "the gas they use is generally city-supplied also." Admissions by local officials and welfare workers show that Detroit has its own share of people ready to cash in on the present widespread advertisement and exploitation of destitution, who insist upon having more than they need, with the result that others must take less than they need.

A good deal of this abuse has been encouraged by the wild preaching of the doctrine, at Washington and in lesser political quarters, that those who have never saved anything have a "right" to demand to be kept by taxpayers who themselves may be unable to meet their taxes, with all their industry and providence. There is reason to believe that city-aided families in Detroit have been deliberately padded by the "colonizing" of relatives or friends from other and less generous parts of the country; that others are conserving their own money, while sponging off the taxpayers. These people have the honesty of the men who beg in the streets and die with thousands in the bank. They fatten on the dole, while honest people have to go without. The city, as well as these crooks themselves, would be better off if, as Mayor Murphy has intimated may have to be done, an example were made of some of them in court. The deserving needy can be more adequately cared for if the sources from which relief is being dishonestly obtained are dried up.

ADJUSTED AT LAST*

Young Tommy delighted in kicking his nurse
When he couldn't have pie for his lunch,
At the age of eleven his temper grew worse,
And he packed, for a child, a mean punch.
The village physician at last was called in,
B' his verdict the family mistrusted,
For 't was only original sin—
Now that Tommy was badly adjusted.

As the urchin grew up he would get into fights
With the much smaller children next door,
And stay out until 10 or 11 of nights,
While his parents were walking the floor,
When his mother was out for an afternoon call
He would put kerosene in the filter,
Which wasn't the fault of poor Tommy at all—
His adjustment was quite out of kilter.

At college he wore an expensive coon coat
And developed a liking for beer,
But never a theme or a thesis he wrote
And was flunked in his sophomore year.
He was sent the next term to a tutoring school,
But again he found out what a bust meant—
Which wasn't because the poor boy was a fool,
But because he was out of adjustment.

Now Tommy drives round in the family car,
Twenty jobs he has lately turned down,
But he knows the location of every bar
Within forty-five miles of the town.
His mother is plunged in the depths of despair
And his hard-working father is busted
And broken in spirit, but Tommy don't care,
For at last he is nicely adjusted.

*This "pome" appeared in the *New York Herald-Tribune*. It was reprinted in the *New York State Medical Journal*, from which it was appropriated by us.

THE CHEMICAL KISS
(*Scientific American*)

The skin on the face of a pretty girl is made up of thirteen chemicals! John H. Foulger, well-known chemist, Medical College, University of Cincinnati, says 100 grams of skin contain: Water, 61 grams; albumin and globulin, 0.7; mucoid, 0.16; elastin, 0.34; collagen, 33.2; phosphates, 0.032; fats, 0.761; common salt, 0.45; potassium chloride, 0.04; lime, 0.01; also minute quantities of magnesium oxide, iron oxide, aluminum oxide, and sulfur.

Charles Ludwig, in the *Cincinnati Times-Star*, is inspired to verse by this chemical analysis of sex appeal.

The skin you love so much to touch,
Now savants tell us, isn't much—
Take thirteen chemicals and mix,
And skin jumps from that bag of tricks!

In epidermis of sweet lass,
Potassium and chlorine gas
Unite with common iron rust!
—Our fairy is not even dust!

And when you kiss and say "Yum, Yum"
You osculate magnesium!
Her cuticle has lime and salt—
Now will your fondling ardor halt?

Hell's phosphorus and sulfur, too,
Come into play when lovers woo;
Commingle in the velvet skin
With mucoid and with globulin.

Aluminum in pan and pot
Doth never cost a man a lot:
Much dearer Al_2O_3 ,
In every maiden's cheek you see.

There's KCl and H_2O —
How strange that men admire it so!
The formula you love so well
Has CaO , NaCl .

And since the awful truth is out—
Fair skin's no more than sauer kraut—
Will gallant lovers now all beat
From cooing trysts a cold retreat?

NOT MUCH! Dame Nature put in skin
A chemical named **COLLAGEN**!
Its still small voice doth lure all men—
Depend on it, they'll CALL AGAIN!

NATURE ABHORS A VACUUM

The process whereby one thing takes the place of another is automatic. Nature abhors a vacuum in the mental as well as the physical realm. If a man loses his sickness, he automatically gains health; if he loses his ignorance, he acquires knowledge; if he loses his prejudices he becomes broadminded; if he loses his fears, he gains courage; if he loses his nonsense, he gains sense; if he stops praying for miracles, it means that he has learned to depend upon natural methods; if he ceases to look for help from heaven, he will try to help himself; if he parts with his illusions, he will grasp realities; if he stops thinking of himself as a poor worm crawling in the dust, he will begin to assume the stature of a man; and the moment he ceases to be a blind believer, he becomes an intelligent inquirer.—Dietrich.

"Bodies like the legal and medical professions are much better able to direct their own internal life than to have it directed for them by the state." —HAROLD LASKI.

DEATHS

DR. WILLIAM BLAKEWAY HANNA

William Blakeway Hanna, Mass, Michigan, Hahnemann Medical School, Chicago 1889. Former President of the Ontonagon County Medical Society. For many years Health Officer of Greenland Township and Coroner of Ontonagon County. Also President of the Miners and Merchants State Bank of Greenland. Died at his home at Mass, Michigan, February 15, 1931, from carcinoma. Aged 67.

COMMUNICATIONS

The Editor, Journal of the Michigan State Medical Society:

Soon after the death of Dr. Preston M. Hickey a movement was started to establish some sort of a memorial to this leader in the field of Roentgenology. After due deliberation the idea of a "Preston M. Hickey Memorial Library" was considered most feasible.

As Dr. Hickey had in his last years developed an organization for postgraduate training in Roentgenology at the University Hospital, Ann Arbor, that department has been selected as the location for such a library.

Mr. W. W. Bishop, Librarian of the University, will accept and combine such a collection of books with the Medical Section of the general library, have them catalogued and listed and maintain an exchange in case of duplication. This can be done and still allow the library to be within the Department of Roentgenology for use of the staff and students. Dr. Hickey had hoped to establish such a reference library.

The men trained under Dr. Hickey and those of his colleagues who know of the plans have signified their willingness to donate one or more volumes to this project. I am writing this letter in order that you may give it editorial comment if you so desire.

We feel that there are numerous friends of Dr. Hickey who would like to join in this effort but it would be rather difficult to reach them except through the medium of radiological publications. We are sending a letter to the editor of each journal and asking that, if he mentions the attempt which is being made in behalf of this memorial, he request any one who cares to donate to communicate with Mr. W. W. Bishop, Librarian at the University of Michigan, Ann Arbor.

Hoping that you will find space to give this some comment, I remain,

S. W. DONALDSON.

February 2, 1931.

*"It has been said that the history of medicine should deal only with the development of ideas and that biography is of value only so far as it bears on ideas; this no doubt is the main aim of medical history but it should not be exclusively so. Not only are medical pioneers the earliest expression of the spirit of the time, but are often far in advance of their contemporaries and by their outstanding ability and personality break new ground, determine the nature of the advance and provide the stimulus for fresh research."—From *Aspects of Age, Life and Disease*. By SIR HUMPHREY ROLLESTON.*

GENERAL NEWS AND ANNOUNCEMENTS

Dr. Byron W. Malfroid read a paper on Maternal Mortality in Flint at the regular meeting of the Genesee County Medical Society March 4.

Dr. Frank C. Mann of the Mayo Foundation delivered a very interesting address on the Physiology of the Liver before the Wayne County Medical Society at the general meeting March 3.

Dr. W. L. Casler has had his membership in the Marquette-Alger County Medical Society cancelled for alleged improper and unprofessional conduct in the matter of advertising.

Dr. Alexander R. McKinney and Dr. Andre J. Cortopassi of Saginaw announce that Dr. McKinney will in the future confine his practice to ophthalmology including ophthalmic surgery and that Dr. Cortopassi will limit his work to otorhinolaryngology.

The Public Health Committee of the Wayne County Medical Society is sponsoring lectures on contagious and infectious diseases, at Herman Kiefer Hospital every Wednesday morning at ten A. M. Post-graduate lectures on venereal diseases will be given during February and March; and tuberculosis during the months of April and May.

A Committee consisting of Drs. J. D. Bruce, Frederick Coller, C. J. Lyons, John Sundwall, M. E. Soller, A. C. Thompson, W. R. Davis and J. H. Dempster met at Ann Arbor March 7 to consider health lecture outlines for the ensuing year. This is a special committee appointed by the Joint Committee on Health Education.

"Occupational Diseases" included in House Bill No. 35 under the Workmen's Compensation Act specified are: glanders, lead poisoning, mercury poisoning, arsenic poisoning, poisoning by benzol and its derivatives, volatile petroleum products, carbon bisulphide, wood alcohol, infections due to oils and cutting compounds, and lubricants, dust, liquids, fumes, gases, vapors, carbon pitch and tar, compressed air illness, carbon dioxide poisoning, brass and zinc poisoning, nitrous fumes, "dope poisoning," menthone poisoning and miners' disease.

A meeting of clinical teachers and instructors who had largely taken care of postgraduate teaching under the postgraduate department in Medicine of the University was held at the club rooms of the Wayne County Medical Society on March 18th. The object of the meeting was to consider the advisability of postponing all postgraduate work in Detroit that had usually been sponsored by the Department of Postgraduate Medicine of the University of Michigan, owing to insufficient funds to carry on the work. The subject was freely discussed and it was unanimous decided to continue the work. All clinical

instructors signified their desire to continue without any stipend for their services. At the meeting, which was a noon luncheon, President Ruthven of the University was present as a guest. Dr. Ruthven in a brief address expressed his sympathy with the postgraduate movement as being in accord with the object of the University in its general work of postgraduate education.

THE NORTHERN TRI-STATE MEDICAL ASSOCIATION

The program of the fifty-eighth annual meeting, at Ann Arbor, Michigan, Tuesday, April 14, will begin promptly at 9:00 in the Hospital Amphitheatre as follows: Dr. Cyrus C. Sturgis, Prof. of Medicine in the University of Michigan, Pernicious Anemia (Clinic); Dr. John Alexander, Prof. of Clinical Surgery in the University of Michigan, Certain Problems in Thoracic Surgery (Clinic); Dr. Frank Wilson, Associate Prof. of Medicine in the University of Michigan, Cardiac Clinic (Clinic).

The afternoon and evening sessions will be held in the Natural Science Bldg. and Michigan Union.

Dr. Frank Arnold, Madison, Wisconsin, The Diagnosis and Treatment of Diseases of the Thyroid Gland; Dr. L. J. Karnosh, Cleveland, Ohio, Neuropathy of the Emotions (Slides); Dr. Norman F. Miller, Prof. of Obstetrics in University of Michigan, Pelvic Inflammatory Diseases; Dr. Flynn Morse, Detroit, Michigan, Sudden Deaths; Dr. George Crile, Cleveland Clinic, A Further Report on Clinical Results of Degeneration of the Adrenal Glands (Slides).

This program will be further augmented.

ELOISE HOSPITAL APPROVED

The Council on Medical Education in Hospitals of the American Medical Association has sent the following letter to Dr. T. K. Gruber, Superintendent of the Eloise Hospital Infirmary, Eloise, Mich. Dr. Gruber was for a number of years Superintendent of the Receiving Hospital, Detroit, before his appointment as Superintendent of Eloise Hospital. The following is a copy of the letter:

Dr. T. K. Gruber, Superintendent
Eloise Hospital and Infirmary
Eloise, Mich.

Dear Doctor Gruber:

The approval of your hospital for giving the general internship, the fifth year in medicine, was recommended to the Council at its recent meeting, and it is a pleasure to say that the approval was granted by an unanimous vote.

Will you kindly bring this letter to the attention of the staff and board of trustees and any other who may be interested?

We expect to pay you an occasional visit to observe the progress being made in the training of interns. When necessary we will also request reports for which convenient forms will be sent you.

Very truly yours,
COUNCIL ON MEDICAL EDUCATION
AND HOSPITALS
(Signed) Homer F. Sanger

DR. HUME HONORED

Dr. A. M. Hume of Owosso was honored by the Shiawassee County Medical Society February 19 in recognition of a half century spent in the practice of medicine. The occasion was a complimentary dinner when Dr. Hume was presented with a travelling set. The presentation was made by Dr. G. T. Soule. Dr. Hume made a feeling response to the sentiments

expressed by Dr. Soule on behalf of the medical society. Dr. Hume left for California in March on a visit to his brother which accounted for the early date at which the complimentary dinner was held. Dr. Hume's fifty years of practice was completed on March 10. On that date in 1881 he received his diploma from the Detroit College of Medicine. He began practice at Bennington with his brother, the late Dr. W. C. Hume. After two and one-half years he moved to Owosso where he formed a partnership with Dr. Jabez Perkins who died in 1907. In 1909 Dr. Hume admitted his son, Dr. Harold A. Hume, to practice. Father and son have practised together ever since. During his half century Dr. Hume has not only rendered invaluable service to his city and community as physician, but he has been active in a civic sense as well. Organized medicine has profited by his wisdom and experience. He was a member of the State Board of Registration in Medicine for ten years and has been a member of the American Medical Association for forty years. He was made a Fellow of the American College of Surgeons in 1910 and in point of membership he is the oldest member of the Shiawassee County Medical Society. He has served as President of his County Society and in the years 1918-19 he was President of the Michigan State Medical Society. Dr. Hume has also served as a medical officer of the Michigan National Guard in 1890-1899 with the rank of Major. During the World War Dr. Hume was called into service by Governor Albert E. Sleeper to take charge of the Michigan Bureau of Military Relief in New York. He has been Chief Surgeon of the Ann Arbor Railroad since his appointment in 1910. He has been an ardent Free Mason, having attained the 33rd degree. He was Grand Master of the Masons of Michigan 1909-10. He has served twelve years as a member of the Board of Education and was President for several years. Dr. Hume's numerous friends in the medical profession join his confreres of Shiawassee County in extending congratulations and best wishes for a long and prosperous career.

HICKEY NUMBER

The February number of the *American Journal of Roentgenology and Radium Therapy* which is edited by Dr. Lawrence Reynolds of Detroit has been largely given over to a memorial number to the late Dr. Preston M. Hickey. The frontispiece consists of a very natural photograph of Dr. Hickey in a characteristic pose. The first article on Dr. Preston M. Hickey, 1865-1930, is by Dr. A. W. Crane of Kalamazoo, a life-long and intimate friend of the late roentgenologist. President Ruthven, of the University of Michigan, contributes an article on Preston M. Hickey: His Relation to the University of Michigan; Dr. A. S. Warthin writes on Dr. Hickey's Relation to the Medical School; Dr. E. W. Hall as Hickey, the Teacher; Dr. A. B. Moore, Hickey and the American Roentgen Ray Society; Morris Fishbein and Nicholas Leech, Hickey's Work with the American Medical Association; Dr. Arthur C. Christie, A Note on the Military Career of Preston

M. Hickey; Dr. W. D. Coolidge, Hickey, the Scientist; Dr. W. J. Mayo and B. R. Kirklin of the Mayo Clinic and Dr. A. E. Barclay of Cambridge, England, contribute "An Appreciation"; Dr. Percy Brown, Preston M. Hickey—Caldwell Lecturer, 1928. The hitherto unpublished Caldwell Lecture of 1928 by Dr. Preston M. Hickey appears in full in this number of the Journal. The publication of the lecture was delayed by Dr. Hickey who had an idea of expanding it into a monograph as explained by the editor in a foot note. The lecture appears for the first time posthumously as found among his papers. The February number of the *Journal of Roentgenology and Radium Therapy* contains the usual list of interesting papers pertaining to the science of Roentgenology. It is a number that merits a goodly circulation outside the regular subscription list.

A RECORD YEAR

Michigan had three record achievements in 1930—the lowest death rate, the lowest infant mortality rate, and the lowest maternal mortality rate in the history of the state.

There were 51,561 deaths in 1930, equivalent to a death rate of 10.6 per 1,000 population. This compares with the preceding four years as follows: 1926—12.4; 1927—11.3; 1928—11.9; 1929—11.9; 1930—10.6.

In spite of the increase in population, there were 4,556 less deaths in Michigan in 1930 than in 1929.

The infant mortality rate is a second matter for congratulation. This rate is based upon the number of deaths of children under one year of age per 1,000 living births. There were 6,217 deaths of children under one year of age in 1930, equivalent to an infant mortality rate of 62.9. The rate was 66.9 in 1929. When we consider that a generation ago, in 1900, the infant mortality rate was 157.1, the tremendous advance will be clear. The rate for 1930 was only about 40 per cent of what it was thirty years ago.

The maternal mortality rate, upon which it seems to have been the most difficult to make an impression, was 5.9 in 1930, the lowest in the history of the state. There were 584 deaths from puerperal causes, giving a maternal mortality rate of 5.9 per 1,000 living births, as compared with 6.3 in 1929. This same rate was 10.3 in 1900, a cut of almost one-half in 1930.

The birth rate, however, was not so encouraging. It fell from 20.9 per 1,000 of population in 1929 to 20.4 in 1930. There were 98,882 births in 1930, 187 more than in the preceding year but not sufficient to hold the rate in the face of the increased population. Comparison of the rates for the five years is as follows: 1926—22.5; 1927—22.3; 1928—21.2; 1929—20.9; 1930—20.4.

This falling birth rate is by no means peculiar to Michigan. Advance reports from various states indicate that a number of them will show rates under 20 for 1930.

W. J. V. D.

SOCIETY ACTIVITY

DUES

Your 1931 dues were payable on or before April 1. Are yours paid? The House of Delegates has directed that all those in arrears on April first shall be placed on the suspended list and that they be deprived of medico-legal protection. If in arrears, please see your County Secretary.

OBSERVATIONS

The Civic and Industrial Relations Committee report is published in this issue. A communication has been sent to each county society. Members are urged to comply with the Committee's recommendations.

Our members desired a history of Michigan's Medical activity. Under the able editorship of Dr. Burr that history has been compiled. There are 700 unsold sets. County secretaries are canvassing the membership. If you do not own a set place your order with your County Secretary.

The State Legislative Committee is meeting every week. Read their report as contained in the Executive Committee's minutes this issue. Local legislative committees are urged to maintain constant contact with their representatives and senators.

Section officers are preparing their programs for our September meeting. Applications should be filed with Section officers for program assignments.

Dig up your March Journal. Read again the addresses of Tibbals, Sinai and Waggoner as contained in the minutes of the County Secretaries Conference. There is also much information in Dr. Riley's article. In these slow times you will find these articles interesting reading.

Our advertisers make our JOURNAL possible. They merit your patronage. Are you reading the advertising pages?

You may be experiencing a reduction of business and collections in the present depression. It might be worse. In five states there are doctors who are unable to buy gasoline. Some are receiving food rations from relief agencies. We in Michigan are fortunate for no such reports have come from our members.

The Chairman of the Council and the Committee on Hospital Survey had a con-

ference with our University officials. Read their report in the Executive Committee's minutes this issue.

Lastly, if your dues were not paid by April 1, you are on the suspended list. Remedy this by sending a check to your county secretary.

COUNTY SOCIETY CONTRACTS FOR CARE OF THE POOR

Iowa is given credit for sponsoring the plan whereby county societies undertake to care for the county indigents. We append a general statement of the Iowa plan. It is recommended that our county units give it careful consideration.

METHOD OF CARING FOR INDIGENT SICK

Furnishing medical service for the county poor presents a serious problem to the members of most county societies in Iowa. The Haskell-Klaus law provides for those needing hospital care, and the situation here referred to does not in any way affect that law; but the ambulatory and home bedside cases and all inmates of county jails, poor farms, etc., present a grave problem. How is the county to pay for medical services for those cases that must be cared for locally? Supervisors, social workers, volunteer agencies, medical societies and individual physicians have tried various solutions; but, with one single exception, every method has various drawbacks, most of which end by working numerous hardships upon the medical profession.

This successful method has for some time past been in satisfactory use in eleven societies in this state. Many others are now contemplating adoption of the same system. The plan is that of a blanket contract between the medical society and the county supervisors, by which the county pays a fixed annual sum in return for which the society furnishes for the county poor all medical care.

The annual payment varies from \$1,600 to \$12,600 and goes into the society treasury. Service to the indigent sick is rendered upon the order of the supervisors, township trustees, or other authorized persons; and such service is distributed among the members of the society as evenly as possible.

The societies having such contracts are Hardin County, Marion County, Marshall County, Scott County, Washington County, Webster County, Mahaska County, Jefferson County, Fort Madison, Waterloo and Council Bluffs (the last three being limited to the cities). Many other counties have similar proposals under consideration. The advantages of this plan, according to its advocates, are:

1. Unjust inequalities in payment to physicians for indigent sick services eliminated.
2. Removal of friction between the county medical society or its members and the board of supervisors or social workers.
3. General satisfaction of the community with its physicians because of effective medical service given to the indigent sick.
4. A full treasury which solves the financial problems of the county society.

The latter point is an important one in many ways. The secretary-treasurer never needs to worry about collecting dues, nor members about paying; for county, state and A. M. A. dues can be paid out of the general funds of the component society. Ex-

pense money is always available to bring the best speakers from even distant points, so that the problems of the program committee are solved. Medical protective insurance, on a group basis, can also be provided for every member out of the general funds.

As an illustration of the financial success of this plan, it is interesting to note that the society which receives the smallest per annum payment still has in its treasury some \$7,000. Such surplus can of course be distributed annually among members on the basis of services rendered. Incorporation of the county society is a necessary step, since the corporation can then enter into a contract with the supervisors, and more especially since incorporation relieves the member physicians of any individual liabilities for acts of others.

ENACTMENTS RELATING TO THE PRACTICE OF MEDICINE

In scanning the Compiled Laws of 1929 for Michigan, it is interesting to note the many and extended sections bearing relation to the practice of medicine. To safeguard the public health and individual welfare we find the following references:

- 6446-6473—Public Health Department
- 6475-6572—Local Health Officers and Laws
- 6573-6599—Vital Statistics—Death Certificate, Birth Certificate
- 6600-6660—Communicable Diseases—Sterilization
- 6661—*Illegal Operations*
- 6662-6687—Sanitation—Sewerage
- 6733-6736—Dissection for Science
- 6737—Medical Practice Act
- 6750—Governing the Issue of Medical Diplomas
- 6757—Osteopathic Law
- 6765—Dentistry
- 6781—Optometry
- 6793—Chiropodists
- 6804—Nursing
- 6825—Board of Pharmacy
- 6878—State Hospitals and Commission
- 6992—Tuberculosis and Sanitariums
- 8159—Welfare Department
- 8295—Hospital Service for Afflicted Persons
- 8407—Compensation Law
- 9156—Liquor Prescription
- 9212—Narcotic Drugs
- 12883—Diseased and Crippled Children
- 16691—Offences against Public Health
- 16693—Adulteration of Drug or Medicine
- 16694—Prescription by an Intoxicated Physician
- 16703—Sale of Poisons
- 16705—Possession of Alcohol
- 16715—Acting as a Surgeon in a Duel
- 16718—Mayhem
- 16727—Rape
- 16739—Killing an Unborn Child
- 16740-16742—Abortion
- 16836—Disinterment
- 16847—Intercourse under Guise of Medical Treatment
- 16877-16884—Advertisement of Sexual Treatments
- 16890—Exhibition of Deformed Bodies

These are the more outstanding sections. In many of the other sections one finds reference to physicians, medicines and health policies. One is impressed that individual health is the concern of many sections of our state laws.

AMENDMENTS TO THE MEDICAL PRACTICE LAW

A bill providing for certain amendments to the present medical practice law has been prepared and is ready for introduction in the present session of the legislature.

The question is frequently asked: "Why amend the present law?" In a brief article it is impossible to set forth all the reasons or to cite the many experiences that are met daily and which make it imperative that these amendments be secured. The endeavor will be made to impart the outstanding reasons in tabulated form:

REASONS FOR AMENDMENT

1. The present law was formulated in 1899. It provides for a Board composed of regulars, homeopaths, eclectics and physio-medics. There no longer exist any of the schools of the last three specified classes. The Governors have been compelled to appoint to the Board so-called regulars. The Board is therefore illegally constituted. While the attorney general has ruled and the Supreme Court has determined that the present Board is a *de facto* board and therefore its acts are legal, yet in any disciplinary action the power of the Board may be questioned, quo-warranto proceedings instituted and thus the Board's acts and authority may be questioned and even nullified. To remedy this condition, the proposed amendment provides that the Governor shall constitute the Board from ten licensed practitioners of medicine.

2. The present law specifies the subjects in which a candidate shall be examined for license. Some of these subjects are no longer taught in our colleges. The amendment authorizes the Board to designate from time to time the subjects of examination.

3. The present law requires a four-year course in medical college. A goodly number of our Class A schools permit students to complete their college work in sixteen quarters over a period of three years in place of sixteen quarters over a period of four years. The Board is not empowered to license fully trained students who have completed their courses in three years. Consequently an amendment is worded permitting the Board to license these students.

VIOLATION BECOMES A FELONY

4. Under the present law a violation is a misdemeanor. The violator cannot be arrested or tried until evidence of fact is presented. Then when arrested he can appear, give bail and resume his practice, delaying his trial for from one to two years. An amendment is prepared to make violation a felony. This will enable the Board to obtain the arrest of a violator upon information, secure an injunction to prevent practice till tried and so expedite his trial.

5. In the wording of the present act it has been a debatable question as to whether a license can be revoked without first convicting the violator in a court of record. A recent Supreme Court decision has sustained the Board in this power but in order to block future appeals upon this legal question, the amendment clarifies the section and removes all doubt as to the Board's right or procedure.

6. Under the present law a license once revoked could never be reinstated. There have been occasions when it has been desirable to reinstate licenses. The amendment conveys this power to the Board.

7. In court procedures the present law designates the prosecuting attorney as the prosecuting officer. There have been many occasions where the prosecutor has refrained from proceeding because of local or political reasons. The amendment provides authority for the Attorney General to institute proceedings.

BENEFITS OF ANNUAL REGISTRATIONS

8. Under the present law, it is impossible to ascertain from year to year who is licensed, who have died or who have removed from the state. Within the year there have been found several who have practiced many years without a license. Illegal and unlicensed practitioners are practicing. In twenty-two states annual registration is in force. Annual registration, with a two dollar fee, is proposed. Every doctor would re-register during the month of January on a blank sent to him by the Board. Failure to re-register would not revoke one's basic license, such an individual would merely be in suspension and could re-register at any time. In February a list of registered physicians would be published. County Societies or individual physicians could check these lists. If it were found that a doctor was practicing in that county or vicinity and he was not recorded as registered, the reporting of the fact would cause an investigation and either result in the detection of a violator or cause the doctor to register. Licensed doctors, resorting to quackery or questionable practices could be disciplined and their licenses withheld until they observed the provisions of the law. Impostors would be uncovered. The licensed doctor would receive greater protection, the public would be safeguarded, and Michigan would obtain all the benefits that are now enjoyed by the profession in twenty-two other states. The amendment safeguards the meritorious licentiate who need fear no annoying restrictions of his rights. The competition of the irregular will be terminated. While it may be argued that the State should accord this feature without cost, yet the fact remains that with existing legislative conditions it is hopeless to expect the state powers to assume this function. Annual re-registration is the one and only solution of this problem.

Annual re-registration has been approved by the Special Committee, appointed by the House of Delegates, to investigate its merits and advisability. It has also been endorsed by the Legislative Committee of the Wayne County Medical Society. At first thought, reasons for opposition may be apparent, but when all the facts are known, when existing conditions are reviewed and the benefits appraised, then will it be conceded that re-registration will solve the present unsatisfactory situation.

CERTIFICATION OF SPECIALISTS

9. An amendment has been prepared that will empower the Board to adopt the minimum requirement that must be met by the doctor who seeks to become a specialist. Having met that requirement, the Board may issue a certificate attesting the applicant's qualifications as a specialist. This section is not a mandatory one, nor is it a compulsory enactment. It merely provides that he who desires such certification may obtain it when he meets the adopted requirements. There is no penalty for not possessing such a certification. It is an educational provision.

10. There are a few changes in phraseology which are deemed desirable in order to clarify certain paragraphs, thereby doing away with possible interpretations.

The foregoing explanatory paragraphs brief the reasons and set forth the purposes of the bill that will accomplish the strengthening of our medical practice act. It is a timely amendment and one that becomes necessary by reason of changing conditions. The profession's endorsement is solicited. It has been carefully studied and reviewed by quite a few of our members who are interested in the profession's welfare and who conclude that in spirit and purpose these amendments are indicated and desirable.

MINUTES OF THE MARCH MEETING OF THE EXECUTIVE COMMITTEE

1. The Executive Committee of the Council of the Michigan State Medical Society held its March, 1931, meeting in Battle Creek on March 4 at 5:00 P. M. with the following present: B. R. Corbus, chairman; James D. Bruce; George L. Le Fevre; C. E. Boys; Henry Cook; R. C. Stone, President; Carl F. Moll, President-Elect; F. C. Warnshuis, Secretary; John Sundwall and J. B. Jackson of the Legislative Committee.

2. The Secretary presented the application of Dr. Ignatz Mayer of 1212 Griswold Street, Detroit, Michigan, who had been elected a member by the Wayne County Medical Society, and desired certification of his membership in the Michigan State Medical Society and endorsement of his application for Fellowship in the American Medical Association. Dr. Bruce presented the following resolution, which was supported by Dr. Cook:

Whereas: For many years Doctor Ignatz Mayer has employed a method for the treatment of hernia, which method has been regarded as unsafe by the medical profession, and

Whereas: He has employed methods of exploitation discredited by the medical profession, and

Whereas: His application for membership in the Michigan State Medical Society and for Fellowship in the American Medical Association is consistent neither with our obligation to the public nor with our professional principles and ideals, therefore,

Be It Resolved:

That the application of Dr. Ignatz Mayer be rejected.

After due discussion, upon the motion put by the Chairman, the unanimous vote of the Executive Committee was to adopt the resolution.

3. The Secretary presented a communication from the Bruce Publishing Company setting forth a financial statement of the cost of publication of our History to date. This cost is as follows:

Printing Volume 1.....	\$2,708.24
Printing Volume 2.....	3,450.39
Misc. Expense—Postage and Circulars.....	783.00
	—————
Cash Received to Date.....	\$6,941.63
	3,000.00
Balance Due Bruce Publishing Co.....	\$3,941.63

Copies on hand:

1 Leather Bound Copy of each volume
369 Bound Copies of each volume
400 Unbound Copies of each volume

The Bruce Publishing Company request a payment of \$1,500.00 and stated that if that payment was made they would carry the balance of the account until all the copies of the history had been sold. Inasmuch as the Executive Committee at its February meeting made an additional appropriation of \$1,000, upon motion by Le Fevre-Boys, an additional appropriation of \$500.00 was made and the Secretary instructed to forward the same to the Bruce Publishing Company.

4. The Secretary presented a communication from the Chairman of the Committee on Civic and Industrial Relations setting forth certain expenditures that had been made for stenographic services. Upon motion of Le Fevre-Boys, the Secretary was instructed to issue a voucher for \$25.00 in favor of the Chairman and to advise him that this was an appropriation for special stenographic services but did not institute a precedent for future appropriations.

5. The Secretary presented the following statement from the Chairman of the Council which imparted the progress that was being recorded in the solution of the University Hospital clinical services.

To the Executive Committee:

Re: Committee on Hospital Survey
Conference with President of the
University of Michigan.

Pursuant to your instructions your chairman requested a conference with President Ruthven of the University. The President most graciously suggested that he would be happy

to have your chairman and the members of the committee on Hospital Survey for luncheon at his home on February fourteenth. Accordingly your chairman transmitted the invitation to the committee. Dr. Marshall being unable to attend, Dr. Manwaring was appointed to represent him.

We met at the President's house, the executive committee of the faculty, the secretary Mr. Curtis, and Dr. Sawyer of the Board of Regents. The cordial manner in which we were received, and the willingness to discuss matters in which the University and the profession must have a common interest, was in marked contrast to similar conferences in the past, and augurs well for future beneficial co-operation.

Your chairman gave a short introductory comment referring to the attitude of the profession toward the University and the conditions and occasion which led to the resolution which resulted in the formation of the committee. Dr. Smith presented the report, and this was followed by a very general discussion in the course of which it developed that many of the suggestions embodied in the report had been adopted in the preceding two years and that occasion for criticism along these lines no longer existed. There yet remain, to be worked out by the University, certain plans which, if adopted, would answer other criticisms which were made in the report. It must be recognized that in the Smith Report certain hospital and medical school policies are suggested which are much at variance with existing methods.

We are gratified that the President and the executive committee of the medical school are so willing to concern themselves with these suggestions, and we are assured that they are, at this time, studying conditions and seem to truly hope that a plan satisfactory to the profession may be evolved. The President, after expressing to us his appreciation of this opportunity to hear the views of your committee, said that a formal statement would be made of the attitude of the University and its medical school in regard to the suggestions embodied in this report.

Respectfully submitted,
Burton R. Corbus,
Chairman Council
Michigan State Medical Society.

Upon motion of Boys-Cook, the statement was approved and ordered inserted in the records of this meeting.

6. The Secretary presented communications of the officers of the scientific sections regarding the scientific program for our next Annual Meeting. Upon motion of Boys-Cook, the Secretary was instructed to invite the officers of the scientific sections to meet with the Executive Committee at the April meeting for the purpose of determining the final details of the scientific program.

7. The Legislative Committee through its Chairman, Dr. John Sundwall, and its member, Dr. J. B. Jackson, presented the following memorandum of the activities of this committee:

(1) Committee appointed November 20, 1930. Regular meetings of Committee each Saturday. To date, eight meetings held. Interest of members.

(2) Scope of Committee's work: All Bills pertaining to Public Welfare considered. Not limited to Legislation which specifically affects medical practice. Attempts at constructive help and not opposition. Other interests considered.

(3) List of Bills considered:
 S. B. No. 26—Coroners (under consideration)
 S. B. No. 41—Hospitalization of mothers, illegitimate children, fix responsibility (under consideration)
 H. B. No. 75—Provide medical and surgical treatment of children (under consideration)
 H. B. No. 48—Control of Water Works (approved)
 H. B. No. 49—Fees for searching birth certificate information (approved)
 H. B. No. 63—Birth registration of unregistered births (approved)
 H. B. No. 64—Rural sanitation, outhouses (under consideration)
 H. B. No. 65—Registration of Laboratories (approved after certain changes)
 H. B. No. 48—Supervision and Control of Water and Sewage Treatment and Disposal (approved)
 H. B. No. 86—Amending Saginaw County Procedure for Dealing with Communicable Diseases (under consideration)
 H. B. No. 45—Occupational Injury (no action)
 H. B. No. 95—Automobile Drivers, Re-examination and re-registration (under consideration)
 S. B. No. 7—Nurses. Read Miss Sargent's Letter (Bill withdrawn)
 H. B. No. 85—Tuberculosis Sanatorium, Northern Michigan (under consideration)
 H. B. No. 35—Workmen's Compensation (no action)
 H. B. No. 87—Care of Indigents (under consideration)
 H. B. No. 56—Control of Tuberculosis, Live Stock (under consideration)
 H. B. No. 73—Prevention and supervision of contagious diseases of live stock (under consideration)

H. B. No. 88—County Health Board (under consideration)
 Cosmetology Bill (under consideration)
 Crippled Children's Bill (report by Dr. Jackson)
 Chiropractic Bill (report by Dr. Sundwall)
 Michigan State Board of Registration Bill National Board of Medical Examiners.

The various bills enumerated in the report of the committee were thoroughly discussed and the following action taken—

Upon motion of Cook-Boys, Bill No. 75 was not accorded approval.

Upon motion of Cook-Boys, Bill No. 35 was not accorded approval.

Upon motion of Bruce-Le Fevre, Bill No. 85 was approved.

In discussion of the amendments to the Crippled Children's Act, it was moved by Bruce-Cook that the State Medical Society endorses the limitations of that Act, whereby none other than orthopedic surgeons who are members of the orthopedic society shall serve in the clinics conducted by the Crippled Children's Commission; and further recommended that the orthopedic society take some action whereby competent surgeons with orthopedic ability be added to their membership and placed upon the professional staff of the Crippled Children's Commission.

The Bill introduced by the chiropractors to create a special chiropractic board was presented by the legislative committee. After discussion, upon motion of Bruce-Le Fevre, the legislative committee was instructed to record our opposition to this bill and that the statement prepared by the legislative committee be sent to the component county medical societies.

Upon motion of Cook-Boys, the legislative committee was directed to call to the attention of the Board of Registration in Medicine the desirability of including in the bill amending the present Medical Practice Act a provision which would recognize the credentials of the National Medical Examining Board, and request that the Board of Registration use its discretionary judgment as to whether this suggestion shall be included in the proposed bill of amendments.

8. The Chairman of the Legislative Committee requested instructions as to the limitations of its activity, and whether or not it might extend its labors into broader health fields. The Chairman of the Council stated that the Legislative Committee was created and provided for by the House of Delegates in our By-Laws and that its activities should be limited to purely legislative matters.

9. The expenses of the Legislative Committee, to the amount of \$300.00, was reported and upon motion of Boys-Bruce this appropriation was made and charged to the legislative fund.

10. The Executive Committee adjourned at 10:30 P. M.

F. C. WARNSHUIS,
Secretary.

CIVIC AND INDUSTRIAL RELATIONS COMMITTEE MEETING

A meeting of the Civic and Industrial Relations Committee of the Michigan State Medical Society was held Monday, February 16, 1931, at the Wayne County Medical Society, Detroit, Michigan.

1. The meeting was called to order by Dr. H. S. Collisi, Chairman, at 6:45 P. M. Those present were: Drs. Collisi, L. O. Geib, Detroit; H. F. Dibble, Detroit; E. I. Carr, Lansing; G. C. Penberthy, Detroit; C. W. Brainard, Battle Creek; D. F. Kudner, Jackson; George J. Curry, Flint, and F. C. Warnshuis, Grand Rapids. Also present were: Drs. J. M. Robb,

A. R. Hackett, A. C. Hall, and A. P. Biddle, all of Detroit. Also: Dr. R. M. Filson, Hartford, Connecticut, for the Travelers Insurance Company; Mr. F. A. O'Donnell of the Travelers; Mr. K. S. Teipel of the U. S. Fidelity and Guaranty Company; Mr. P. B. Sawyer of the Zurich General Accident & Liability Company, and Mr. R. J. Morris of the Michigan Mutual Liability Company.

2. The matter of physicians charging insurance companies for the execution of blanks and reports was presented by the Chairman.

Dr. Filson stated that the presentation of proof is the duty of the insured; that the claimant must support his claim and pay the fee. He felt that the amount of information requested could be shortened. This is a problem between the medical profession and the claimant, in which the insurance company does not enter. He claimed that ordinarily the physician's statement is of no value except to justify the claim.

Mr. O'Donnell stated that his company waives the physician's claim except in cases of disability. He stated that the Travelers had never paid a doctor's bill, according to this resolution of the State Society; that the purpose of the proof is for statistical reasons only.

Dr. Hackett objected to the long reports and to the necessity for affidavits. He stated that the doctor's time is worth money and those who are benefited should pay.

Mr. Teipel stated that his company had eliminated the affidavit because of the objections on the part of the medical profession; their present form asks relevant questions only.

Mr. Sawyer felt that doctors are assured of payment of their bills by the payment to the claimant of the insurance, and the doctor's bill should be ample payment for the completed statement and the physician's execution of necessary proofs.

Mr. Morris stated that his company had a blank containing a simple statement, which helped doctors and saved their time; that the proof of disability necessitates a certification from the physician, and this is the claimant's responsibility.

Dr. Robb stated that he had little personal experience with this type of work, but felt sure that the blanks would have more exact information and be more carefully filled out if the doctors were paid for same.

Dr. Curry mentioned several cases where the insurance company paid the families or claimant who thereupon squandered the money, and the physician received nothing. He asked the insurance men if they might not arrange to advise the physician concerning the time of paying the claimant so that the doctor could be assured of his fee. Under the present arrangement, the doctor was not only losing the fee for his services, but by filling out the blank gratuitously was acting as an aid in the non-payment of his own bills.

Dr. Penberthy asked Mr. O'Donnell a question relative to the information requested by his insurance company. Mr. O'Donnell replied, and stated that some reports are a nuisance—that fraternal organizations have the longest reports and are getting by without claim departments.

Dr. Geib stated that insurance companies should pay doctors' bills on assignment. He asked Mr. O'Donnell if this could be done and the answer was in the affirmative.

Dr. Carr stated that he felt there were some benefits to the insurance company other than those mentioned—that on the physician's statements, insurance companies often denied claims and thereby saved themselves thousands of dollars.

Dr. Kudner objected to the large blanks and stated that the answers were worth \$2.00 to the insurance

company, or else why should the questions, other than those showing proof of claim, be required?

Dr. Warnshuis spoke at length and refuted the arguments presented. He claimed that the profession of this State should be remunerated for services, and very valuable services, which it is rendering to insurance companies. He stated that the insurance companies are the primary benefactors from these statements, and, therefore, should pay for the onerous clerical work forced on the doctors. He brought up the point that many questions in the statements touch on the confidential communication status between physician and patient, and that patients could sue doctors for divulging this information without their consent.

Dr. Collisi reviewed the entire situation, and the arguments of the doctors and insurance representatives present. He answered the various questions asked and ended by stating that insurance companies would be better off by paying \$2.00 because they would receive accurate information and the good will of the medical profession.

Mr. O'Donnell suggested that the medical profession take up with the underwriters and the policy writers the matter of changes in the policies.

Mr. Teipel stated that his company for the past eighteen months has had one doctor in each locality obtain the statements in almost all cases, for which he is paid from \$3.00 to \$5.00 per, that the company is no longer using the attending physicians.

Dr. Filson brought out the question of ethics in that doctors charging for filling out statements would be paid by both the insurance company and the patient. Dr. Warnshuis answered that both are receiving service and both should pay.

A motion was made by Drs. Dibble-Curry that the Civic and Industrial Relations Committee respectfully requests insurance men to discuss this matter with their superiors and to meet again at a future date for a further discussion of this problem. This resolution was carried.

3. The meeting was adjourned at 10:15 P. M.

H. S. COLLISI, M.D.,
Chairman, Civic and Industrial
Relations Committee.

MINUTES OF THE MEETING OF THE JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

Ann Arbor, January 22, 1931, Noon

This meeting was called in conjunction with the Medical Council and secretaries of a number of the County Medical Societies. Sixty-four members and guests attended the meeting, which was presided over by President Ruthven, chairman of the Joint Committee.

1. Minutes of the last meeting were read and approved.

2. Secretary's report of the health lecture program for the past fiscal year. The health program carried on under the direction of the Joint Committee, and through the coöperation of the Extension Division of the University, gives evidence of a continued expansion of these activities throughout the State. During the past year the number of people served in connection with extension lectures and other health activities was larger than for any previous year since the organization of the Joint Committee work. Health lectures may be classified in two ways: First, those which are assigned to Parent-Teacher Association programs, luncheon clubs, and other similar organizations; and second, those which are

given in connection with high school assembly programs:

Number of doctors and dentists assigned for health lectures.....	166
Number of high schools in which assembly programs were given.....	122
Total number of health lectures given in connection with high school assembly programs and club programs.....	578
Number of different high school students who heard from two to five health lectures.....	40,000
Total attendance upon health lectures.....	150,000

3. Report of the proposed plan of health education in coöperation with the State Department of Public Instruction. The State Department of Public Instruction appointed a special committee to draft a course of study in health for the schools of the State. This committee signified a desire to secure the coöperation of the Joint Committee on Public Health Education in connection with the carrying out of the new course of study. Mr. A. W. Thompson, representing the State Department of Public Instruction, gave a brief outline of the proposed course of study, with reference to its content and objectives. He stated that the State Department would heartily welcome any assistance that the Joint Committee might be able to render in connection with the proposed health program.

Upon motion of Dr. Warnshuis, the Joint Committee approved the proposed plan of coöperation with the Department of Public Instruction. The following committee was appointed to work out such a coöperative program in connection with the course of study outlined by the State Department: Dr. C. A. Fisher, Extension Division; A. W. Thompson, State Department of Public Instruction; Miss Marjorie Delavan, State Department of Health; Dr. James D. Bruce representing the State Medical Society; and Dr. W. R. Davis, Secretary of the State Dental Society.

4. Report of the Poster and Essay Contest, by Dr. Fisher. The number of enrollments in this contest for the past two years has been about one-third of the total assignments of high schools. The number taking part in the health Poster and Essay Contest this year will be about the same as for the past two years.

The Joint Committee approved the allocation of \$100 for prizes for next year and it also authorized the payment by the Treasurer of \$200 for the publication of a special bulletin, with the understanding that if the proposed bulletin should cost more than this amount the funds would be furnished by the Extension Division.

5. Report of the Publicity Committee. Dr. Bruce, chairman of the Publicity Committee, submitted his annual report covering the newspaper publicity program for the past year. He suggested four methods of financing the publicity program in the future. The fourth plan, which was approved by the Committee, was to interest financial organizations concerned with health programs. He stated that he had reasons to believe that he could secure funds which would make it possible to offer the newspaper service to all state papers, and especially those in the smaller towns where such a service would be most helpful. The plan accepted and the full report placed on file.

6. Report of the Treasurer of the Joint Committee. Dr. Warnshuis reported that the balance on hand December 30, 1930, was \$2,111.85. Report accepted and placed on file.

7. On motion of Dr. Corbus, the Joint Committee approved the suggestion that in view of the fact that there is a surplus on hand in the Treasury, contributing members be asked to pay hereafter one-fourth of the amount previously paid in by the respective organizations, this sum to be expended

for such purposes as may be approved by the Committee. Carried.

8. The next meeting of the Joint Committee will be held in Ann Arbor in May, subject to the call of the Secretary.

The meeting adjourned.

W. D. HENDERSON, Secretary.

COUNTY SOCIETIES

GRAND TRAVERSE-LEELANAU COUNTY

A special meeting of the Grand Traverse-Leelanau County Society was held at the home of Dr. J. W. Gauntlett on November 11, 1930. For the purpose of assisting in celebrating the sixtieth anniversary of his birth, the following members—Drs. F. Holdsworth, M. J. Holdsworth, Minor, Rinear, Sladek, Way, Swanton, Swartz, Kyselka, Thirlby, Brownson, Flood, Hastings, Huston, Kernkamp, and George Bovee—sat down to a bounteous turkey dinner with all the trimmings, with "Jimmy" in father's chair.

After dinner the guests proceeded upstairs, where the secretary read the replies of members and invited guests who were not able to be present.

Dr. Way invited the members of the society to a retiring president's dinner at the Park Place Hotel in December.

A committee was appointed to investigate the cost of procuring memorial enlargements of Dr. Lawton and Dr. Munson to be placed in the hospital.

After an evening of refreshments, card playing, and general hilarity, and long distance 'phoning to Drs. Sturgis, Badgley, Garner, and Collier, all of whom were invited to the party but unable to attend, Jim's party was fittingly adjourned at 2:30 A. M.

E. F. SLADEK, Secretary.

The annual meeting of the Grand Traverse-Leelanau County Medical Society was held at the Park Place Hotel, December 6, 1930.

Twenty members sat down to an elaborate dinner as guests of our retiring president, Dr. L. R. Way.

No definite progress was reported regarding the pictures of Dr. Munson and Lawton. In this connection, our Councillor, Dr. O. L. Ricker, who was present, suggested that we obtain a bronze bust of Dr. Munson, and that he was sure that we could have an official dedication of this bust by the Michigan State Medical Society.

Officers for 1931 were then elected: President, Dr. F. H. Kernkamp, Suttons Bay; vice president, Dr. R. R. Huston, Elk Rapids; secretary-treasurer, Dr. E. F. Sladek, Traverse City; Medico-Legal Committee, Dr. S. E. Smiseth, Suttons Bay.

Councillor Otto Ricker addressed the society, speaking of the difficulties of holding county society meetings as far as programs were concerned, and suggested that a group society be formed for the region meetings to be held every three months for scientific programs. Considerable discussion took place regarding the old Northwestern Michigan Clinical Association.

Mr. M. M. Rickett of the Petrolagar Laboratories showed a number of motion pictures: "Colles Fracture," "Hydrocele," and "Diverticulum of the Bladder."

The newly elected president invited the society to a wild duck dinner during the season next fall.

E. F. SLADEK, Secretary.

The regular meeting of the Grand Traverse-Leelanau County Society was held January 12, 1931, with twenty members enjoying a dinner as guests of Dr. E. L. Thirlby at the Park Place Hotel.

Dr. E. L. Thirlby, reporting as a member of the picture committee, offered an enlarged photograph

of Dr. F. P. Lawton, which is to be placed in the doctor's room of the J. D. Munson Hospital. The motion—Minor-Inch—that the cost of the picture be taken from the society funds was carried.

Dr. Gauntlet was appointed a committee of one to obtain information regarding the cost of a memorial bust of Dr. J. D. Munson, with orders to report at the next meeting.

The following committee appointments were made:

Membership Committee—Drs. L. Swanton, chairman; H. B. Kyselka, M. J. Holdsworth.

Legislative Committee—F. G. Schwartz, chairman; Fred Murphy, R. R. Huston, Frank Holdsworth.

Program Committee—M. J. Holdsworth.

Through the courtesy of the Sharp and Dohme-Mulford Company and the Swan-Myers Company, the following interesting films were shown: "The Manufacture and Use of M. A. B.", "Poison Snakes of North America and the Preparation of Antivenin," and "Preparation of Pollen Extract for Hay Fever."

A rising vote of thanks was tendered to Dr. Thirlby for our dinner.

E. F. SLADEK, Secretary.

GRATIOT-ISABELLA-CLARE COUNTY

The February meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright House, Alma, Thursday, February 19. Twelve members had dinner together at 7:00 P. M. Three members came in after dinner.

President Harrigan called the meeting to order. Minutes of the previous meeting were read and approved. Some communications were read by the Secretary.

In the absence of the Committee on Resolutions on the death of Doctor Bronstetter, President Harrigan described the doctor's last illness and spoke very feelingly of the personal loss his death caused to the members of this society.

The symposium on Pneumonia was then taken up, Dr. C. E. Burst discussing the diagnosis of the pneumonias and Dr. M. J. Budge the treatment of the same. These papers were discussed by every one present, after which President Harrigan on behalf of the Society thanked Doctor Burt and Doctor Budge for their papers.

The meeting was adjourned.

E. M. HIGHFIELD, M.D., Secretary.

MECOSTA COUNTY

The regular meeting of the Mecosta County Medical Society was held March 10, 1931.

After partaking of an excellent dinner given by the Mecosta County Dental Society at the Western Hotel, meeting was called to order by President MacIntyre.

Present: Drs. Miller, Rogers, Shank, Zetterstedt, Pryor, of Big Rapids; and Dr. Shepard of Remus of the Dental Society. Drs. MacIntyre, Yeo, Kelsey, Campbell, Grieve, Treynor, Dodge, Franklin, Kilmer, Soper, Clark, and Burkart of the Medical Society. Guest, Dr. V. H. Eman of Grand Rapids, Michigan.

Minutes of the last meeting were read and approved as read.

The secretary announced the death of Dr. C. W. Bunce of Coral, Michigan, on February 26, 1931, and advised that flowers and card of sympathy had been sent and acknowledged by the bereaved family. On motion of Dr. Grieve supported by Dr. Franklin, President MacIntyre appointed Drs. Grieve and Yeo as a committee to draft suitable resolutions on the death of Dr. Bunce.

President MacIntyre then turned the meeting over to President Rogers of the Dental Society, who

in a few well-chosen remarks introduced the speaker of the evening, Dr. V. H. Eman of Grand Rapids, who gave a highly instructive and interesting illustrated demonstration of "The Relation of Dental Infection to Systemic Disease." The doctor said in brief, "A focus of infection has been defined as a site where germs against which the body has little or no local resistance are flourishing locally. Today, it is a well-established fact that dental foci of infection may have a direct bearing on the general condition of the body. It was not until twelve or fifteen years ago that any great attention was given to this important phase of medicine. Laboratory experiments and clinical observations carried on extensively in these few years have proven without question that toxic products, generated about the teeth and absorbed into the system through the blood and other channels, can cause disease in the remote parts of the body. Symptoms and general examination confirmed by X-ray plates and studies with the microscope have demonstrated the close relationship between the teeth, the tonsils, the sinuses and the rest of the body"

Discussion was very brief; the meeting was then turned back to President MacIntyre, and the regular order of business was taken up. The secretary read the application of Dr. Jerrold F. Stibal of Baldwin, Michigan, for admission to the Society, and on motion Dr. Stibal was admitted to membership in the Mecosta County Medical Society.

The Secretary then read several communications from the State Medical Society and Legislative Committee thereof, relative to proposed changes in the medical practice laws of Michigan. An animated discussion followed and was confined finally to sections 10 and 11 of the proposed changes. (See Files.) A vote taken on Section 10 which provides for the annual registration fee, was favorable. Section 11, dealing with "Specialists" was deemed not consistent, and unconstitutional and vote was against its adoption.

Dr. Yeo moved that a rising vote of thanks be given the speaker of the evening and the County Dental Society. Carried.

On motion the meeting adjourned.

JOHN L. BURKART,
Secretary-Treasurer.

OAKLAND COUNTY

We have made arrangements with the Royal Oak Broadcasting Corporation, Station WEXL to give weekly talks by the members of the Oakland County Medical Society.

The talks will be given on Wednesday mornings at 10:30 A. M.

The first talk was given on March 11, the speaker being Dr. L. A. Farnham, Pontiac, president of the Oakland County Medical Society.

Later programs have been arranged as follows:

March 18—Colds and their Complications. Dr. J. S. Morrison, Royal Oak.

March 25—What's the Matter with My Nose and Throat? Dr. Frederick A. Baker, Pontiac.

April 1—Reasons for Periodic Health Examinations. Dr. Robert Baker, Pontiac.

April 8—Hygiene of the Heart. Dr. Frank A. Mercer, Pontiac.

April 15—Tuberculosis. Dr. George Sherman, Pontiac.

April 22—The Family Physician. Dr. Robert B. Hasner, Royal Oak.

April 29—Trench Mouth (Vincent's Infection). Dr. C. A. Neafie, Pontiac.

C. A. NEAFIE, Secretary.

NEWAYGO COUNTY

At the annual meeting of the Newaygo County Medical Society the following officers were elected for the ensuing year: President, Dr. Willis Geer-

ling, Fremont; vice president, Dr. O. C. Stryker, Fremont; secretary-treasurer, Dr. W. H. Barnum, Fremont; delegate to State Society, Dr. A. C. Thompsett, Hesperia; alternate, Dr. H. R. Moore, Newaygo.

W. H. BARNUM, M.D., Secretary.

ST. CLAIR COUNTY

The regular meeting of the St. Clair County Medical Society was held at the Harrington Hotel, Port Huron, March 3. There were twenty members present.

Visitors included Drs. Learmont and Hart from Sanilac County; Dr. Webster, Marquette; Dr. Walz, Capac, and Dr. Fluemer, Mt. Clemens.

The amendments to the Registration Act as submitted by Dr. Corbus, chairman of the Council, were approved by the Society. There was some doubt as to the advisability of the annual registration. The need for this was explained by our Councilor and when voted on was carried by a fair majority.

The paper of the evening was one on "Endocrinology," by Dr. Robert Moehlig of Detroit. It was an excellent résumé in which the author, by bringing our embryological development of the human system to the attention of his listeners, was able to present and demonstrate his further deductions on how certain diseases were caused by hypo- or hyperfunctioning of the glands. His paper was an unusually instructive one on a topic in which we were all intensely interested.

T. HEAVENRICH, Secretary.

SAGINAW COUNTY

At the annual meeting of the Saginaw County Medical Society held December 16, 1930, the following officers were elected for the year 1931:

President, A. E. Leitch; vice president, F. J. Cady; secretary and treasurer, W. K. Anderson; medico-legal advisor, W. J. O'Reilly; Board of Censors, H. J. Meyer (Chairman), J. W. Hutchison, and E. E. Curtis.

The February meeting of the Saginaw County Medical Society was held in the Board of Commerce Building, Tuesday evening, February 17. About fifty members were present.

Following approval of the minutes, Dr. J. H. Powers presented a summary of the Iowa Idea and made a motion that the president appoint a committee to investigate the possibilities of this plan. The president, Dr. Leitch, appointed the following committee: Dr. Campbell, Dr. Powers, and Dr. English.

Application for membership of Dr. C. W. Ely, having been passed by the Board of Censors, was voted on by the society and approved.

Other business and communications were dealt with.

Dr. Samuel Feinberg, a member of the teaching staff of Northwestern University Medical School, presented an interesting paper on "Allergy." Methods in the determination of the causes of asthma were given particular attention. Conservative methods of treatment were advocated and success in many of the coöperative patients was assured. No extravagant claims were made. Abundant discussion of the paper indicated that it was well received. The meeting was adjourned.

W. K. ANDERSON, Secretary.

WAYNE COUNTY

The four Detroit physicians, Drs. James E. Davis, Frank A. Kelly, Clarence I. Owen, and John T. Watkins, who were called to Lowell, Massachusetts, to testify in the Dugdale Law Suit, presented a report on this interesting case at the Wayne County Medical Society meeting of March 24.

In line with the established policy of arranging a social evening for the membership on all fifth Tuesdays, the Entertainment Committee had charge of the meeting of March 31. Dr. F. C. Collier of Ann Arbor gave a fine historical sketch of medicine in his address: "Divorce of Medicine and Surgery." A program of music was followed by a buffet supper and cards.

Dr. J. Burns Amberson of New York City will speak at the joint meeting of the Wayne County Medical Society and the Detroit Tuberculosis Society on April 7. Dr. Amberson's presence in Michigan is part of the April campaign against "Tuberculosis in the Teens."

Dr. J. E. Gordon of the Herman Kiefer Hospital, Detroit, will speak before the Medical Section of the Wayne County Medical Society on April 14. His subject will be "The Detroit Epidemic of Meningo-coccic Meningitis."

The Noon Day Study Club, composed of the physicians and surgeons below the age of forty, will present the program of the Wayne County Medical Society on Tuesday, April 21. It will consist of a symposium on "Empyema of the Chest."

The first annual joint meeting between the Detroit Bar Association and the Wayne County Medical Society will be held on Tuesday, May 5. A most interesting program is being arranged by the two committees representing these groups.

The Cafe of the Wayne County Medical Society served 2,062 luncheons and 204 dinners during the twenty-four working days of February, 1931. The cafe is increasing in popularity. A cordial invitation is extended to all our out-of-Detroit friends to avail themselves of the Cafe for luncheon purposes when they visit Detroit.

The Bulletin of the Wayne County Medical Society recently published the budget for 1931 as well as a chart showing the distribution of the 1931 anticipated income. The chart illustrated how the Budget Committee prophesied that the year's receipts of \$38,925.00 would be disbursed, and also the ratio of disbursements per dollar.

The proposed amendments to the Medical Practice Law were published in The Bulletin of the Wayne County Medical Society of February 24. Ten reasons were given for the passage of this legislation. A copy of The Bulletin will be sent to any member of the Michigan State Medical Society who is interested.

The Public Health Committee of the Detroit Board of Commerce held a meeting with the Public Health Committee of the Wayne County Medical Society on February 17 to study the city's health report for the year 1930. This analysis will support the Board of Commerce's position as contestant for first place in the United States Chamber of Commerce Public Health Contest. Detroit won second place in the 1929 contest, and hopes to win first place for 1930.

Reprints on the Hoxsey "cancer cure" have been received from the Bureau of Investigation of the American Medical Association by the Wayne County Medical Society. They will be sent to any member of the Michigan State Medical Society upon request.

The bi-annual brochure of the American Medical Golfing Association, together with the annual financial statement, was mailed from Detroit to all active members during March. The next tournament will be held in Philadelphia, June 8, 1931, on the occasion of the annual meeting of the American Medical Association. The place will be the Aronimink Golf Club, famous for its perfect greens and sporty layout.

The Wayne County Medical Society Cafe was the scene of a recent meeting between representatives of various insurance companies and the Civic and Industrial Relations Committee of the State Society. The matter of physicians charging insurance com-

panies for the execution of blanks and reports was discussed at length by both sides. A second meeting with another group of insurance men will be held in the near future.

During the twenty-four working days of February, 1931, the executive office of the Wayne County Medical Society handled a total of 3,324 communications. Of these 784 were incoming and 2,540 were outgoing. This is an average of over 138 per day. The executive staff is now interviewing an average of thirty people per day personally, with an equal, if not a greater number over the telephone.

The roster of the Wayne County Medical Society was published in The Bulletins of March 10 and March 17.

Dr. J. M. Robb, President, and Dr. H. W. Plagge-meyer, President-Elect of the Wayne County Medical Society, have appeared before all the branch societies and other organizations affiliated with the county society during the month of March presenting addresses concerning the inner workings and activities of the organization. These six talks presented personal glimpses of what transpires "behind the scenes" of the Society.

Members of the Michigan State Medical Society are cordially invited to the Postgraduate Clinical Conferences on Communicable Diseases held at Herman Kiefer Hospital, Detroit, every Wednesday at 10:00 A. M. These clinics have been arranged by the Public Health Committee of the Wayne County Medical Society in conjunction with the Urological, the Dermatological and the Tuberculosis Societies of Detroit. Large numbers of doctors are taking advantage of these conferences. All men who register receive a reprint of the lecture at a later date. The April program is as follows:

April 1—Clinical Symptoms of Tuberculosis

Stuart Pritchard, M.D., Director, W. K. Kellogg Foundation, Battle Creek, Michigan.

April 8—Tuberculosis of the Adult

Richard P. Morgan, M.D., Tuberculosis Division, Herman Kiefer Hospital, Detroit.

April 15—Tuberculosis of Childhood

Henry D. Chadwick, M.D., Tuberculosis Controller, Herman Kiefer Hospital, Detroit.

April 22—The Value of Surgery in Tuberculosis

E. J. O'Brien, M.D., Tuberculosis Division, Herman Kiefer Hospital, Detroit.

April 29—Sanatorium Care of Cases of Tuberculosis

Bruce Douglas, M.D., Superintendent, Wm. H. Maybury Sanatorium, Northville, Michigan.

JACKSON COUNTY

On Tuesday evening, March 17, the Jackson County Medical Society met in the Green Room of the Elks Temple for their regular monthly meeting. After the dinner the members retired to the Memorial room, where they heard a very interesting talk on some legal phases of the Medical Practice Act by Mr. Wirt King, local attorney. He went over the legal requirements for the practice of medicine, surgery and midwifery, and cited some of the rulings of the State Supreme Court in some questions which have arisen out of this act. A general discussion followed.

Dr. John Sundwall, professor of hygiene at the University of Michigan, came as a representative of the State Legislative Committee to discuss some of the bills which have been and which will be introduced at the present session of the legislature. The secretary read a letter from Dr. F. C. Warnshuis supporting the amendments to the Medical Practice Act. A general discussion followed. In view of the fact that the Legislative Committee of the State Medical Society, according to Dr. Sundwall, has been considering and fostering a bill which would place the licensing of physicians as well as all other professions in the hands of the Department of Education, it seemed to the Jackson County Society inadvisable to endorse the amendments to the Med-

ical Practice Act as introduced by the State Board of Registration in Medicine at this time. The plan as outlined by Dr. Sundwall seemed to the Jackson County Society to have considerable merit and in order not to embarrass this movement it was moved by Dr. Cooley and seconded by Dr. Porter that the bill not be endorsed. Motion was carried.

It was moved by Dr. O'Meara that the names of the illegal practitioners in the county along with such other information as is available be given to Dr. J. E. McIntyre of Lansing and to act on his advice. Motion was carried.

Dr. Riley moved that the Society have a dinner Friday night, March 20, at which about twenty members of the society should be present and to which Dr. Sundwall and a few members of the laity should be invited to present to the local representatives and senator our views on some legislative matters. Motion was carried. A committee composed of Drs. George Pray, Hurley and Schaeffer were appointed to arrange the details.

On motion of Dr. O'Meara and seconded by Dr. Clark the Society voted to send ten dollars to the Pershing Memorial Fund in Paris.

The meeting then adjourned. Attendance, forty-four.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.

MRS. W. L. FINTON, Secretary, Jackson, Mich.

Mrs. Harris, our state president, writes from Florida as follows:

The next National Convention of the Auxiliary occurs in Philadelphia June 8-12. It is advisable to begin now to know who will attend the meeting, so we may select our delegates and alternates. All national officers, chairmen of standing committees and state presidents are members ex-officio of the National Board of Directors and should not be sent as delegates. Regarding payment of dues, each society has received a letter notifying them of the close of our fiscal year. "Representation at the Convention shall be based on the amount of dues received before March 31." For other information regarding our basis of representation please read again your copy of the Constitution and By-Laws. At a meeting of the Board of Directors in Chicago, November 14, 1930, the national president was authorized to make such adjustment as might be necessary to enable each state to pay its national dues at the close of its fiscal year without losing representation in the national convention.

WAYNE COUNTY MEDICAL AUXILIARY

The women's auxiliary to the Wayne County Medical Society will meet at 3 o'clock Tuesday, March 10, in the Club rooms. A musical program will be presented by Mrs. Lois Johnson Gilchrest, soprano; Mrs. Harry H. Jackson, contralto, and Mrs. Alfred H. Whittaker, pianist. Following the musicale there will be a meeting of the club.

HYGEIA

Mrs. H. G. Bartlett, 1510 Lake Shore Drive, St. Joseph, writes as follows concerning subscriptions to HYGEIA:

We are asked to put on a ten week subscription campaign for "HYGEIA" March 1 to May 15, and I would like very much to get at least 100 to subscribe for it. That would bring into our state work help in the way of finance. Subscription price \$3.00 per year; two years for \$5.00.

We would ask that the doctors who wish to subscribe or to renew, do it during this next ten weeks. I shall be glad to receive the orders and will guarantee delivery.

(Mrs. P. R.) LOUISE T. URMSTON,
Publicity Chairman.

THE DOCTOR'S LIBRARY

OPERATIVE OBSTETRICS IN THE MANIKIN. Charles B. Reed, Associate Professor of Obstetrics at Northwestern Medical School, Chicago. P. Blakiston's Son and Company, Philadelphia, Pa.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 10, No. 6. Index Number. (Philadelphia Number, December, 1930.) 316 pages with 95 illustrations. Per Clinic year (February, 1930, to December, 1930). Paper \$12.00; Cloth \$16.00. Philadelphia and London: W. B. Saunders Company, 1930.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 14, No. 4. (Philadelphia Number, January, 1931.) Octavo of 240 pages with 47 illustrations. Per Clinic year, July, 1930, to May, 1931. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

CLIO MEDICA. A series of primers on the History of Medicine. Editor: E. B. Krumhaar, M.D. Physiology by John F. Fulton, M.D.

In the little volumes of which the present is one of the series we see the muse of medical history at her best. This little work on The History of Physiology is interestingly written, chock full of information on the subject and very attractively gotten up from the viewpoint of typography. The subjects emphasized are, The Circulation of the Blood, Respiration, Digestion, with a small chapter on the ancients, including Aristotle and Galen, and a chapter on Physiology in the Nineteenth Century and the Rise of the Teaching Laboratories. There is a valuable bibliography of works pertaining to the subject for those who would peruse it further.

TRAUMATOThERAPY. John J. Moorhead, B.Sc., M.D., F.A.C.S.; Professor of Surgery and Director, Dept. of Traumatic Surgery, New York Post-Graduate Medical School and Hospital; Surgical Director, Reconstruction Hospital Unit; Colonel Medical Officers Reserve Corps, U. S. Army, 574 pages with 625 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, \$7.00.

To quote from the author's preface, "There is no type of surgery to-day more universal than accident surgery." This fact itself is justification for the emphasis placed upon this particular field of surgical practice. In accident surgery the diagnosis is for the most part easily made from the history as well as from the inspection of the injured parts. This being the case the technic of treatment becomes of paramount importance. The work includes the treatment of wounds of the soft parts, best methods of reducing dislocations, fractures, injuries of closed cavities, traumatic neuroses, plastic surgery applied to both bones and soft parts, standard procedures in first aid and many other subjects. The work is well illustrated both by photographs and diagrams. It can be confidently recommended not only to the surgeon but likewise to the physician in general practice. The work is well indexed for ready reference, an important factor in a book of this kind.

THERAPEUTICS MATERIA MEDICA AND PHARMACY WITH SPECIAL THERAPEUTICS OF DISEASES AND SYMPTOMS. The physiological and therapeutical action of drugs. The modern *Materia Medica*, official and practical pharmacy, prescription writing, and antidotal and antagonistic treatment of poisoning. S. O. L. Potter, A.M., M.D., M.R.C.P., London. Fifteenth edition revised by R. J. E. Scott, M.A., M.D., Fellow of the New York Academy of Medicine. Price \$8.50. P. Blakiston's Son and Company, Philadelphia, Pa.

When a medical book has reached the fifteenth edition it scarcely requires the description that is

usually accorded a new work. The title presents fairly the scope covered by the book, which is encyclopedic in its treatment of the various phases of the subject, while the general plan that is so well known has been followed. There has been a marked effort towards simplification of therapeutics, which is limited largely to medicinal agents. Information in concise form is given concerning the physical properties and chemical composition of drugs and also their doses, preparations and incompatibilities. To facilitate its use as a reference work it is well indexed not only in the usual way but there is a thumb index as well.

PRACTICAL RADIATION THERAPY. Ira I. Kaplan, B.S., M.D., Director, Division of Cancer, Department of Hospitals, New York City; Attending Radiation Therapist, Bellevue Hospital; with a special chapter on, **APPLIED X-RAY PHYSICS**, by Carl B. Braestrup, B.Sc., P.E., Radiation Physicist, Division of Cancer, Department of Hospitals, Physicist to Mt. Sinai Hospital, New York City. 354 pages with 227 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, \$6.00.

This book deals with the practical side of radiation therapy based upon the author's experience. Only the author's methods are described and no comparison is made with those used by other radiologists. About one-fourth of the book is devoted to a discussion of the production of X-rays, radium and radium emanation and applied X-ray physics. The discussion of dosage is made as simple as possible, but it is admitted that it is still a complicated and disputed question. The author uses a dosage measurement based on the Holfelder biological unit. The remainder of the book is devoted to the practical application of radiation to various diseases. Only X-ray and radium therapy is discussed. There is, however, a chapter on endotherapy (electrosurgery) since it is very often used in connection with radiation therapy. The book contains dosage tables, charts and many illustrations.

MODERN SURGERY. J. Chalmers DaCosta, M.D., LL.D., F.A.C.S.; Samuel D. Gross, Professor of Surgery Jefferson Medical College, Surgeon to Jefferson Medical College Hospital, Consulting Surgeon to the Philadelphia General Hospital, St. Joseph's Hospital and Misericordia Hospital, Philadelphia. Assisted by Benjamin Lipschitz, M.D., F.A.C.S., Surgeon to the Mt. Sinai Hospital; Associate in Neuro-anatomy, Jefferson Medical College. Tenth Edition, Revised and Reset. 1404 pages with 1050 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, \$10.00.

This well known work has been entirely re-written so that it is in reality a new book. It goes without saying that the necessary new material has been added to make it as complete and authoritative as a single volume work on any medical or surgical subject can be. Among the new subjects included in this tenth revision are chemotherapeutic methods as well as the new most recent methods of treatment of wounds, contusions and burns. We have also a presentation of the injection method of treating varicose veins. There has been a radical revision of the subject of abdominal surgery, including the most recent operative technic. The subject of anesthesia, always important in a work of this nature, has been fully discussed, including both general and local anesthesia. The urologist will find a satisfactory chapter including the new methods of managing prostatic conditions, genital tuberculosis and neoplasms. The section on surgical tuberculosis has been subject to a thorough revision. Fractures and dislocations and bone disease are discussed in a thorough and practical way. The illustrations are all that can be desired. The volume is well indexed, which of itself makes for ready reference. The work cannot be too strongly recommended to the practitioners, as well as to the surgeon desirous of a complete practical single volume treatment of the subject.